

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

For: DIGITAL IMAGE SERVICE  
AND REVENUE  
GENERATION

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR § 1.131  
TO ANTEDATE U.S. PATENT NO. 6,760,128

Sir:

1. We are Donald P. Gibson, Eric Todd Jacobsen, Jeffrey Steven Myers, Yoshio Yamashita, Yoshifumi Ishikawa, and Seiko Morita, the inventors of the claimed subject matter in the above-identified patent application.

2. We are aware of the Office Action dated April 20, 2005 (hereinafter referred to as the “Office Action”), which enters a rejection of pending Claims 47 to 54 under 35 U.S.C. 102(e) over U.S. Patent No. 6,760,128 (Jackson). We are making this Declaration to show that we conceived our invention before December 6, 2000, which is the filing date of the of the Jackson patent, and diligently reduced it to practice.

3. This Declaration will demonstrate that the invention was conceived before December 6, 2000, and that from a time just before December 6, 2000 until the filing of the application on February 9, 2001, we were diligent in our constructive reduction to practice.

4. This Declaration has been prepared for us in identical copies, and each one of us is executing a separate copy. We authorize our attorneys to confirm to the USPTO that identical copies were executed by each and all of us, and to append all of our signatures onto a single copy of the Declaration.

5. We conceived the invention prior to December 6, 2000. A copy of our signed and witnessed Memorandum of Invention ("MOI") is attached as Exhibit A. Dates on the MOI have been redacted, but those dates and the witness would both confirm conception before December 6, 2000. The MOI was assigned an identification number of MOI-611 by our company's patent staff. As explained below, MOI-611 clearly evidences conception in the United States of the claimed subject matter.

6. MOI-611 describes both the method of providing digital image service and the computer system for providing digital image service as claimed in the claimed subject matter. In MOI-611, we described, in detail, the "upload" function, corresponding to the elements in the claimed subject matter of receiving digital image data via an interface and storing the received digital image data in an electronic image database, and

the “download” function, corresponding to the elements in the claimed subject matter of receiving advertising information from a remote server via a network and storing the received advertising information in an electronic advertising database. In addition, in MOI-611, we described target markets, revenue, and value propositions which correspond to elements in the claimed subject matter of receiving a request at a computer for displaying a service menu; responsive to the request, sending the digital image data in the electronic image database, and advertising information in the electronic advertising database to the computer; and displaying, the service menu on a display of the computer, an image based on the digital image data, an advertisement based on the advertising information, and one or more services for printing the image data. Along with written descriptions, MOI-611 includes flowcharts detailing the image architecture of the invention and possible embodiments including providing digital image service in a guest room with respect to a television-remote-control interface and digital image service at a kiosk at a hotel with respect to a keyboard-mouse interface.

7. From just before December 6, 2000 to February 9, 2001, the date of filing of the above-identified application, we were diligent in our reduction to practice in the United States of the claimed subject matter, as detailed below.

8. On October 11, 2000, we met with our attorney and with members of our company’s patent staff to discuss the invention in detail, and to ensure that our attorneys had sufficient information to commence preparation of a patent application.

9. On November 17, 2000, we completed and submitted drafts of drawings for our patent application. A copy of those drawings and transmittal letter are attached as Exhibit B. Names and addresses have been redacted.

10. On November 22, 2000, our Assignee approved a request to file a patent application and instructed our attorneys to prepare an application for our invention in the United States in the name of Canon Kabushiki Kaisha. The request letter was transmitted on November 24, 2000. A copy of our request letter is attached as Exhibit C. Names and addresses have been redacted.

11. On November 28, 2000, our attorneys confirmed the request to file a patent application in the United States in the name of Canon Kabushiki Kaisha. A copy of the confirmation letter is attached as Exhibit D. Names and addresses have been redacted.

12. On December 6, 2000, our attorneys provided us with a draft of the background, summary, and the claims for our review. A copy of this draft of the background, summary, and claims of our invention along with its transmittal letter is attached as Exhibit E. The content of the draft and letter has been slightly redacted.

13. Between December 6, 2000 and December 15, 2000, we provided our attorneys with comments on the draft, and authorized them to commence preparation of a full application. A copy of the letter from our attorneys confirming receipt of our comments on the draft is attached as Exhibit F. The content of the letter has been slightly

redacted.

14. On December 15, 2000, our attorneys provided us with a first draft of our patent application including drafts of our drawings for our review. A copy of this first draft and drawings is attached as Exhibit G, and its transmittal letter is attached as Exhibit F. The content of the draft and letter has been slightly redacted.

15. Between January 9, 2001 and January 16, 2001, we reviewed drafts of the application as evidenced by email correspondence. A copy of the email correspondence, which is reprinted in reverse chronological order in accordance with conventional email technology, is attached as Exhibit H. Names and addresses have been redacted.

16. Between January 16, 2001 and January 25, 2001, we provided information of our formal names, home addresses, and countries of citizenship, for purposes of preparation of formal papers to accompany the patent application, as evidenced by email correspondence. A copy of the email correspondence is attached as Exhibit I. Names and addresses have been redacted.

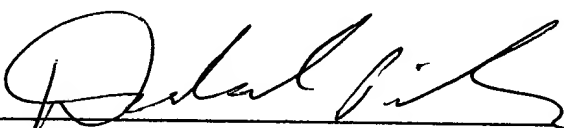
17. On January 31, 2001, our attorneys provided us with a final draft of our patent application for our review. A copy of this final draft along with its transmittal letter is attached as Exhibit J. The content of the transmittal letter has been slightly redacted.

18. On February 5, 2001 and February 6, 2001, we completed a final review of our application and signed and dated a Combined Declaration and Power of Attorney and Assignments.

19. The application was filed on February 9, 2001 with the United States Patent and Trademark Office.

20. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title XVIII of United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

7/12/05  
Date

  
Donald P. Gibson

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Date

\_\_\_\_\_  
Eric Todd Jacobsen

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Date

\_\_\_\_\_  
Jeffrey Steven Myers

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Date

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Yoshio Yamashita

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Yoshifumi Ishikawa

\_\_\_\_\_  
Date

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Seiko Morita

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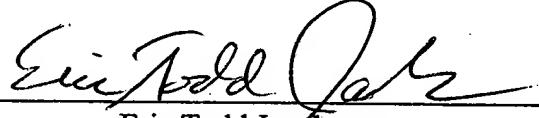
20. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under § 1001 of Title XVIII of United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

\_\_\_\_\_  
Date

21 July 2005

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Date

\_\_\_\_\_  
Donald P. Gibson

  
Eric Todd Jacobsen

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Date

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Jeffrey Steven Myers

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Yoshio Yamashita

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Yoshifumi Ishikawa

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Seiko Morita



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Date

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Donald P. Gibson

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Eric Todd Jacobsen

8/5/2005  
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Jeffrey Steven Myers

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Yoshio Yamashita

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Yoshifumi Ishikawa

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Seiko Morita

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Donald P. Gibson

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Eric Todd Jacobsen

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Date

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Jeffrey Steven Myers

*July 25, 2005*  
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Date

  
\_\_\_\_\_  
Yoshio Yamashita

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Date

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Yoshifumi Ishikawa

\_\_\_\_\_  
Date

\_\_\_\_\_  
Seiko Morita

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Donald P. Gibson

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Eric Todd Jacobsen

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Jeffrey Steven Myers

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Yoshio Yamashita

7/20/2005  
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Yoshifumi Ishikawa

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Date

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Seiko Morita

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Donald P. Gibson

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Eric Todd Jacobsen

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Jeffrey Steven Myers

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Yoshio Yamashita

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Date

\_\_\_\_\_  
Yoshifumi Ishikawa

7/13/05  
\_\_\_\_\_  
Date

Seiko Morita  
\_\_\_\_\_  
Seiko Morita

Received: [Redacted]  
MOI No. 611

ID No. [Redacted]

Date: \_\_\_\_\_

# MEMO of INVENTION

## 1. Title of the Invention / Field of the Invention

Describe the subject of the invention (e.g. Printing system for photograph images) or the method (e.g. Remote ordering for photograph image printing ) so as to definitely classify the field of the invention.

A method for storing photos from digital cameras on the internet while the owner is away from home and providing advertising opportunities for tourist related businesses

## 2. Background of the Invention and/or Art Related to the Invention (What is the problem that your idea addresses or what function/capability is missing from current systems?)

Describe all of the problems solved by the invention, which the inventor has noticed. Describe reasons why those problems exist in the related art. You may describe this section by referring to a figure showing the construction of the related art if it is easier to describe. If you use a figure, attach it to this sheet.

Digital Cameras use memory cards to store photos. These memory cards are expensive. At home, users can transfer their photos to a computer and reuse the memory card. However, while on vacation this is not practical and the users would have to buy more memory cards if they want to take a lot of photos.

## 3. Description of the Invention (Brief description of your idea)

Describe specific examples of how the invention solves the encountered problems, if applicable. Specifically, list what the invention is and how it operates. Include diagrams, flow charts, screen prints, tables, etc. (attach additional sheets if necessary)

**Uploads:** The user connects their digital camera to a photo transfer station and uploads their photo to a "photo parking lot," a site in the internet. This transfer station can be located in the guest's hotel room, in the hotel lobby in a kiosk, or even in a kiosk in an amusement park. The website can send the photos to a photo community, email photos to friends, order reprints. The hotel or resort can also add vacation site related photos such as photos of the hotel and tourist attractions. This enables the guest to get additional photos of their vacation and the Hotel has a chance to advertise to the guest and their friends. When the customer buys photos from the service they can also accrue points redeemable for discounts of future stays at the hotel.

**Downloads:** If the digital camera is equipped with an MP3 audio player then the transfer

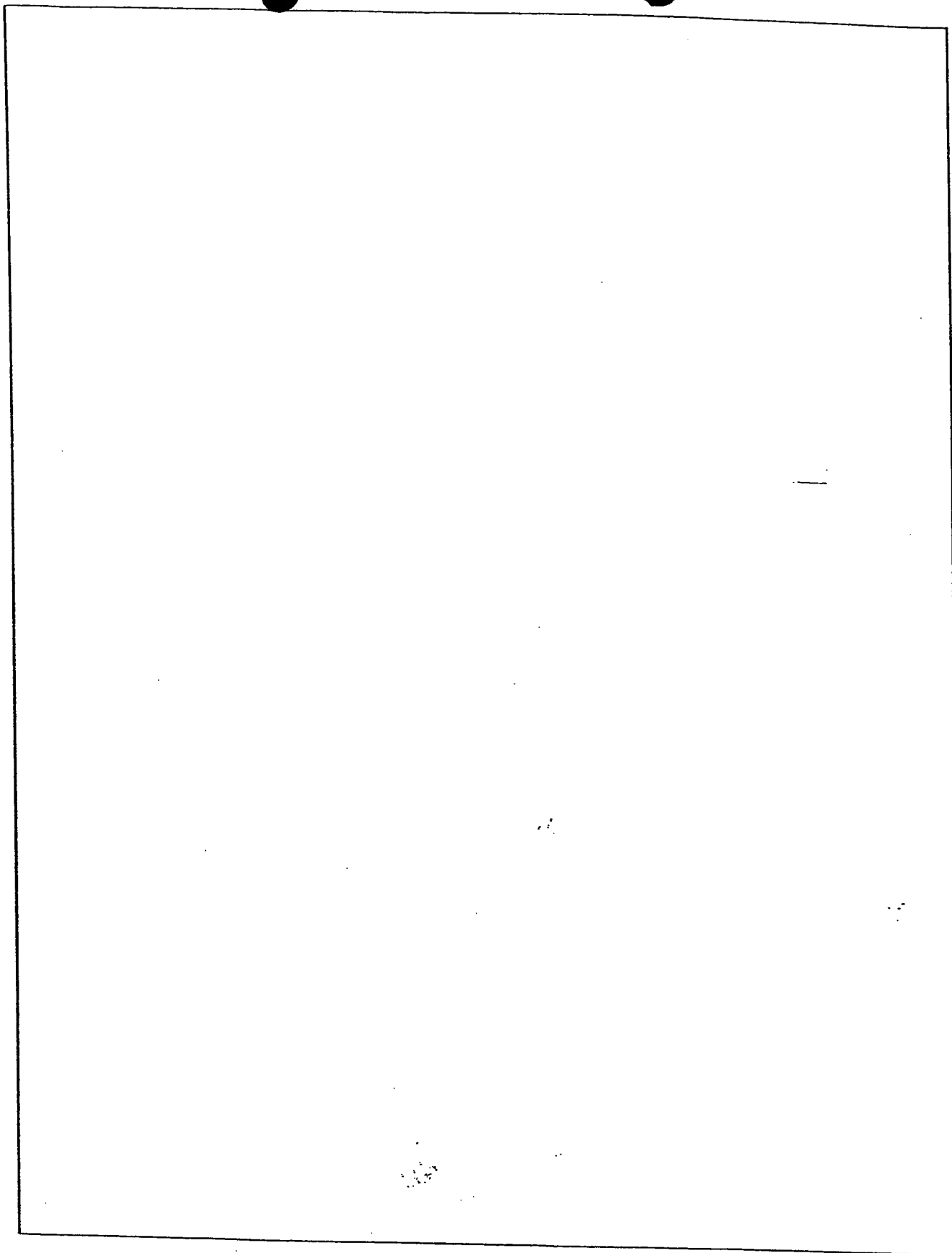
station can download audio files to the camera. The audio files could be audio tour guides of the vacation area. If the digital camera is combined with a PDA (hand held computer) or has a PDA built into the camera it could contain photos and maps of the vacation area. This download information can contain advertisements for local businesses.

**Target Markets:** This service can be marketed to Hotel Chains, amusement parks, and visitor bureaus.

**Revenue:** The upload service will be free to the customer. Revenue will come from Reprint fulfillment, advertisements from Hotel and vacation related businesses, sales of hardware. The system could also be paid for in part by visitor bureaus that are supported by the room taxes.

**Value proposition:** The customer gets convenient storage of photos while on vacation, tourist information about the vacation area, professional photographs of the vacation area. The service partners get low cost advertisements directed to people who are likely to be customers, names and email addresses, information about tourist purchasing patterns while on vacation, and repeat customers. Canon sells hardware and gets revenue from fulfillment.---

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4. Is your idea similar to or an improvement on an existing system?  
If "yes", describe what is different in your idea.

No similar systems are known

5. What the inventor wants to protect as a patent

Clearly describe the important feature of the invention. You may describe this section in the form of claim.

Redacted

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6. Information related to the invention

- (1) Is the invention invented in any project?

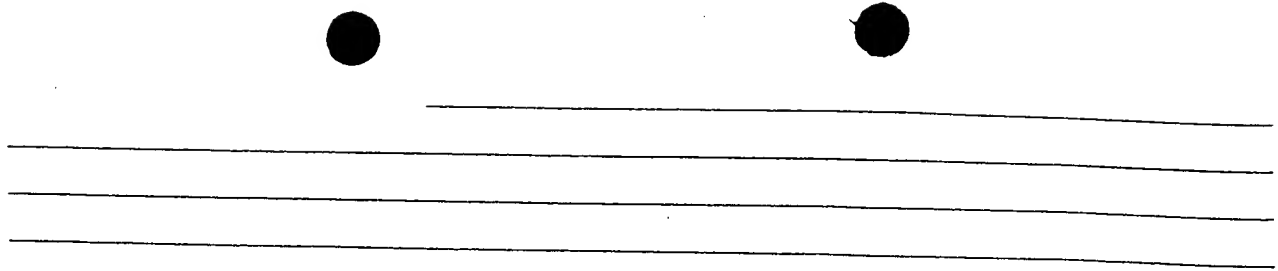
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- (2) List all known relevant art (current status of the art) to the invention, if you have known any relevant art(e.g., Patent No., a paper, relevant products, etc).

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\_\_\_\_\_

- (3) List technical terms for searching the relevant art.





7. Inventor

(1) Gibson, Don

Address 110 Innovation Drive

Irvine, CA 92612

Last Name First Name Middle Name

Signature

Date

Redacted

(2) Yamashita, Yoshio

Address 15955 Alton

Parkway Irvine Ca, 92887

Last Name First Name Middle Name

Signature

Date

Redacted

(3) Ishikawa, Yoshifumi

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Parkway Irvine Ca, 92887

Last Name First Name Middle Name

Signature

Date

Redacted

(4) Morita, Seiko

Address 15955 Alton Parkway

Irvine Ca, 92887

Last Name First Name Middle Name

Signature

Date

Redacted

(5) Meyers, Jeff

Address 15955 Alton Parkway

Irvine Ca, 92887

Last Name First Name Middle Name

Signature

Date

Redacted

(6) Jacobsen, Eric

Address 15955 Alton Parkway

Irvine Ca, 92887

Last Name First Name Middle Name

Signature

Date

Redacted

Witness

I have read and understand the foregoing

Name of Witness HEATHER HOUTER  
Signature Heather Houter

Date

Redacted

8. Section for Manager

(1) Division Code : \_\_\_\_\_

(2) Account Code : \_\_\_\_\_

(3) Comments about this invention, including strategic (business and/or marketing) or technical merit, relevance to CUSA key technologies or projects, due date for filing a patent application, etc.

Redacted

I reviewed the above description (including Sections 1 to 7) and understand its contents.

Name Yoshio Yamashita

Signature [Signature]

Date

Redacted

9. Director's Review

Comment: High priority. Please proceed the patent application.

10. Section for Patent Department

(1) Identification No. : \_\_\_\_\_

Received Date : \_\_\_\_\_

(2) Comment

\_\_\_\_\_  
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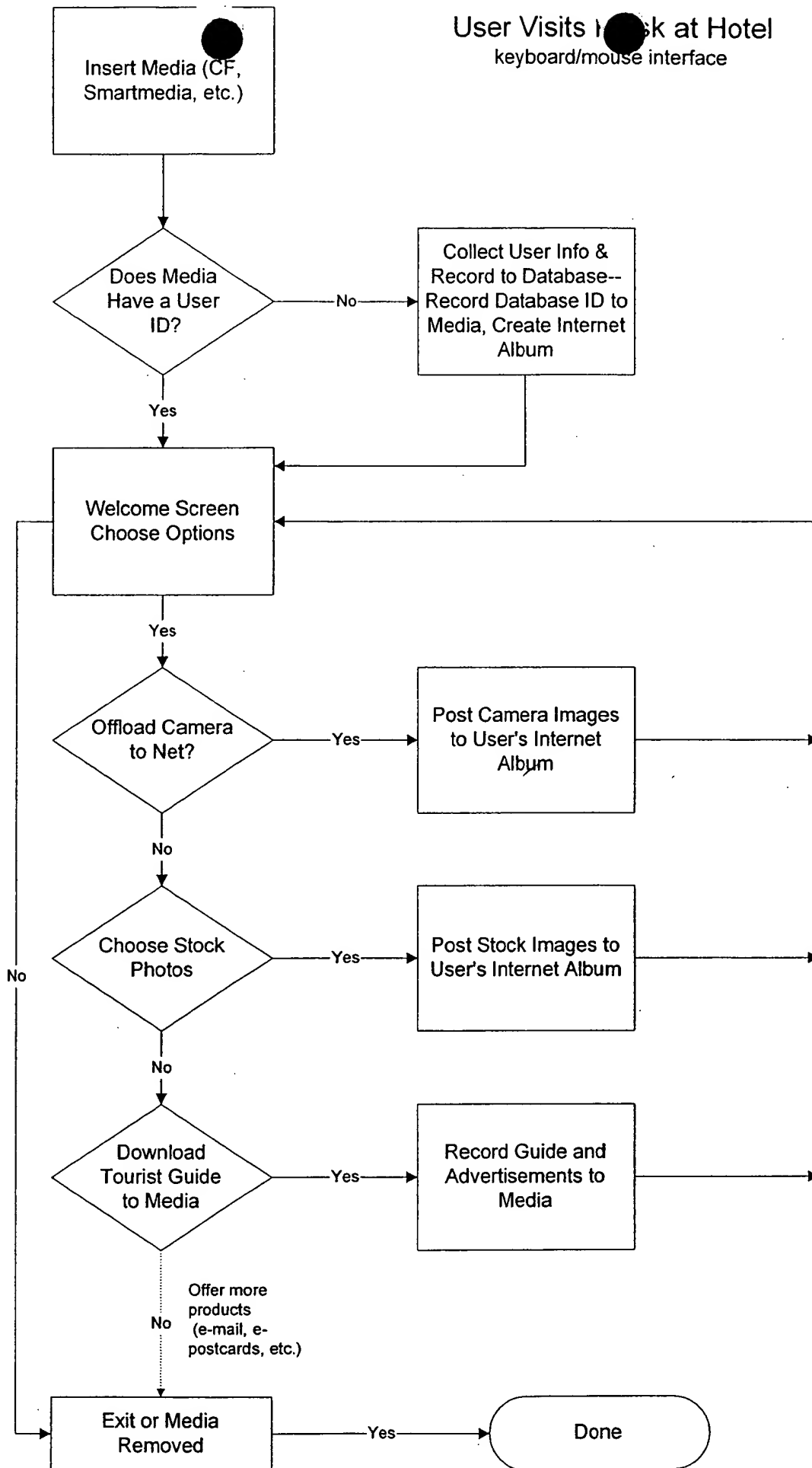
I reviewed the above description (including Sections 1 to 9) and understand its contents.

Name \_\_\_\_\_

Signature \_\_\_\_\_

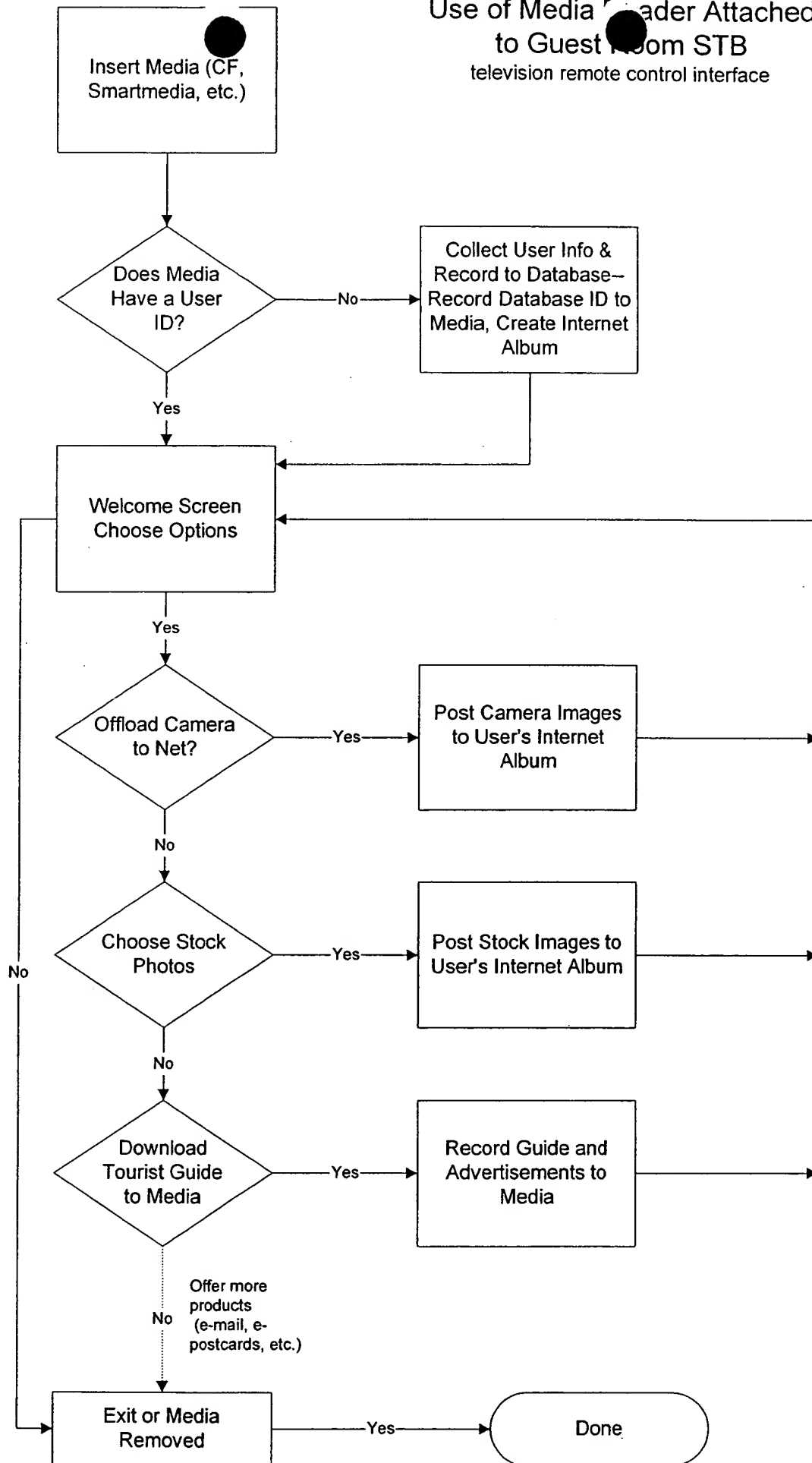
Date \_\_\_\_\_

User Visitsiosk at Hotel  
keyboard/mouse interface



# Use of Media Loader Attached to Guest Room STB

television remote control interface





TO: ? Redacted

ATTN:

FAX:

RE: MOI 611

FROM:

DATE:

TOTAL PAGES:

11/17/00  
3

Here are the final figures as  
promised by Redacted for the patent  
application.

Thanks

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**S3**

Hotel Information Menu  
 Hotel Guide  
 Hotel Services

**S2**

Guest Services Menu  
 Registration Information  
 Hotel Information  
 Local Attractions Information

**S1**

Guest Menu Selection  
 Guest Services Menu  
 TV Channel Menu  
 Game Menu

**S5**

Digital Photo Service Menu  
 View Photos  
 Print Photos  
 Create photo CD

**S4**

Hotel Services Menu  
 Digital Photo Service  
 .  
 .  
 .

**V3**

Print Photos Menu

Select Photo: ☐ ☐ ☐ ☐

Size: 3x5 ☐ 5x7 ☐ 8x10 ☐

No: \$xx/print ☐ \$xx/print ☐

Total: ☐

Print Location: ☐ Local ☐ Website

**V2**

Create Photo CD Menu

Select Photo(s): ☐ ☐ ☐ ☐

No Photos Selected: ☐ x \$XX/photo  
 Total: ☐

CD Creation Location: ☐ Local ☐ Website

**V1**

View Photos

☐ ☐ ☐ ☐ ☐

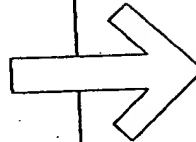
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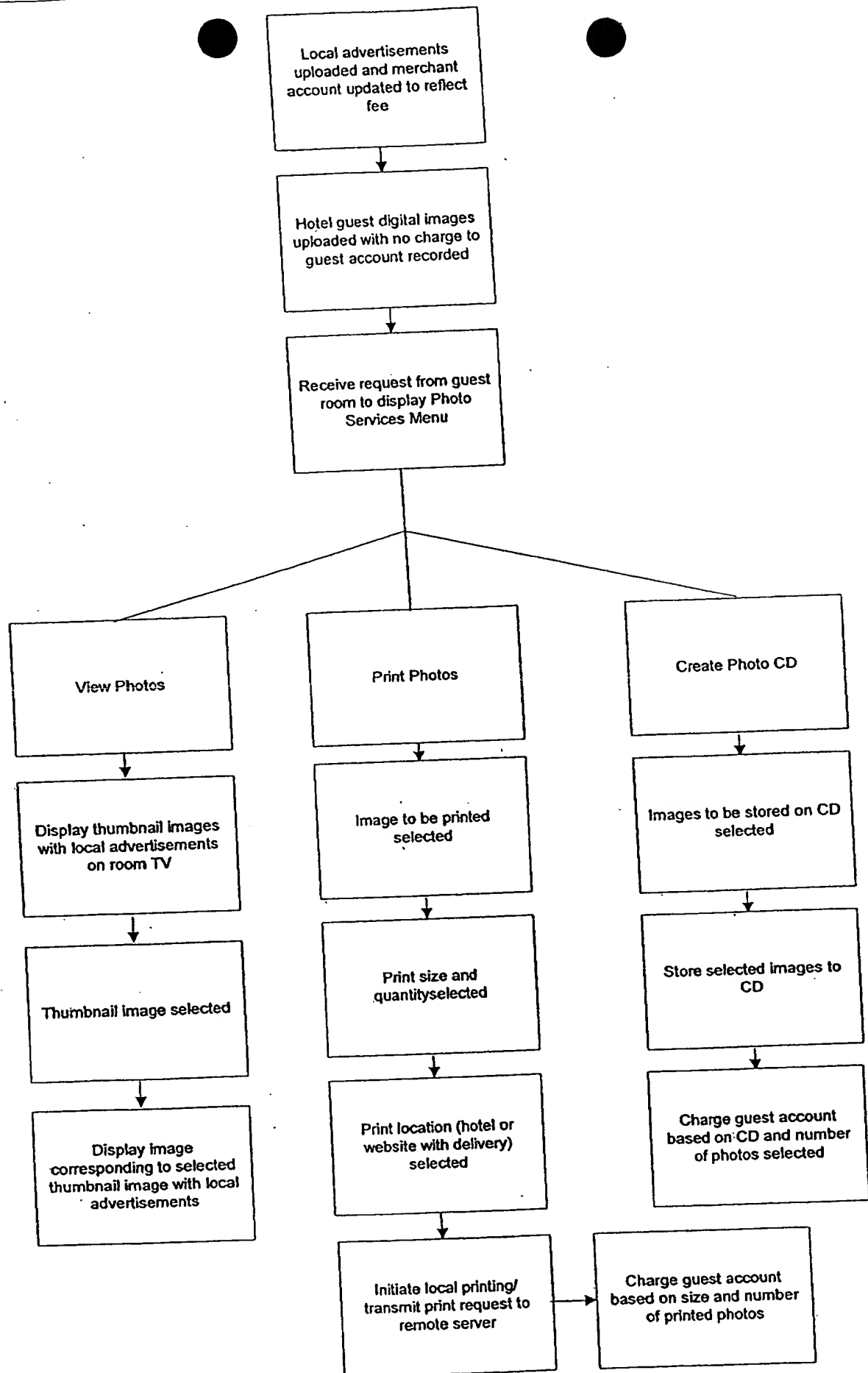
☐ ☐ ☐ ☐ ☐

**V1A**

Advertisement

☐





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VIA FACSIMILE  
CONFIRMATION BY OCS

November 22, 2000

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Re : Request to File Patent Application in the USA

Redacted

This time employees of CANON INFORMATION SYSTEMS (CIS) and CANON USA (CUSA) have made a following invention that is owned by CANON INC. Accordingly, we wish you to file a patent application to the U.S. Patent Office in the name of CANON KABUSHIKI KAISHA.

1. Canon Inc. File No.: CFP1911US
2. Internal File No. in CIS : MOI-611
3. Title of Invention: Digital camera Internet photo storage and business method
4. Inventor(s): Don Gibson (CIS)  
Yoshio Yamashita (CUSA)  
Yoshifumi Ishikawa (CUSA)  
Seiko Morita (CUSA)  
Jeff Myers (CUSA)  
Eric Jacobsen (CUSA)

Redacted

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November 28, 2000

VIA FACSIMILE

Redacted

Thank you for your facsimile letter of November 22, 2000 informing us of your reference number which corresponds to an invention made by CIS and CUSA (CIS Ref.: MOI-611) for a patent application owned by Canon Kabushiki Kaisha.

Redacted

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December 6, 2000

VIA COURIER

Redacted

Pursuant to your request, [Redacted] has prepared a background and summary of the above-identified invention, together with representative broad and commercial claims.

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**DIGITAL IMAGE SERVICE AND REVENUE GENERATION**  
**BACKGROUND OF THE INVENTION**

Field Of The Invention

5                   The present invention relates to supplying  
services for uploading and processing image data  
such as that image data captured using digital image  
acquisition devices including still and video  
cameras as well as image data stored on removable  
10 storage media such as compact flash, smartMedia and  
memory stick storage media. More particularly,  
image data may be retrieved locally using an image  
service that offers selectable services to process  
the image data and/or distribute the image data.  
15 Revenue is produced from the services selected by  
users as well as by revenue received from  
advertisers whose advertisements are passed on to  
the users.

Description Of The Related Art

Digital cameras are becoming more popular, particularly as the quality of a captured image begins to approach the quality of analog cameras (e.g., 35MM cameras). However, there are still some drawbacks with digital cameras. A digital camera has limited storage capacity which gives rise to a need to be able to transfer images captured by the digital camera to external storage.

Most digital cameras typically use some type of removable storage media, such as a CF (compact flash) card, Redacted media, to store captured images. However, the price for removable media can be quite high. For example, the price of a 128 megabyte (MB) compact flash card is approximately \$350.00, and the price of a 64MB compact flash card is approximately 108.00. A purchaser is not likely to want to purchase the removable media unless it can be seen that its level of use can justify the cost of the media.

The storage capacity needed typically depends on the amount of image data needed to be stored before being able to offload the data to external storage. Thus, a digital camera user may minimize the amount of removable media needed by uploading captured images to external storage media (e.g., a hard drive) periodically rather than purchasing additional removable media.

Typically, a digital camera user retrieves image data saved in the camera's storage (e.g., the removable media) using a personal computer, or PC.

There are times, however, when a digital camera user may not have access to a PC or other mechanism for uploading captured images. For example, while on vacation, a digital camera user may not have the ability to store the image data to a PC or other external storage. In such a case, it may be necessary to purchase additional removable media that the user would not otherwise need.

Recently, photo kiosks have been designed for placement in various locations (e.g., retail stores, airports, hotels, etc.) for receiving image data. A photo kiosk is typically a booth, or some type of structure that houses the hardware (e.g., display, computing system, etc.) needed to carry out the local functions of the kiosk. A photo kiosk typically includes a type of computer processing system with a display and may include other devices such as a scanner, removable media reader, printer, CD-ROM drive, modem and the like. In addition, the photo kiosk includes the software needed to configure the computer system to provide functionality local to the kiosk.

In a case that the kiosk has a computer system that is to be used to retrieve image data, the system includes software to allow a user to retrieve image data for transfer to external storage. In addition, a photo kiosk may offer the ability to generate hardcopy prints of the image data, retouch an image, and upload the image to the Internet. Where the hardcopy prints are generated



at the photo kiosk, the kiosk includes a printer of some kind to generate the hardcopy output.

5           The more capability that is provided by the kiosk, the greater the manufacturing costs. In order to provide incentive for a manufacturer to manufacture a kiosk, the manufacturer should recoup the manufacturing costs involved as well as make a profit.

10           Like the manufacturer, there should be some incentive for a site such as a retail store or a hotel to provide space for a photo kiosk. Incentive may be provided in the form of monetary gains and/or goodwill, for example. If the incentive is primarily to increase goodwill with a patron by  
15           offering the services provided by the photo kiosk, it is beneficial to be able to offset the cost of the kiosk services offered to a user in some manner.

          Thus, it would be beneficial to be able to provide a method of producing revenue for each of  
20           the parties involved in providing the kiosk and the services provided by the kiosk. In addition, it would be beneficial to be able to produce additional revenue in the form of revenue subsidies that may be used, for example, to offset the cost of the kiosk  
25           or to supplement the revenue generated from services provided via the kiosk.

#### SUMMARY OF THE INVENTION

30           The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as

revenue from placement of advertising information  
passed on to users. A local image service center

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The revenue that is derived from the  
services and the advertisements may be distributed  
among the various entities such as those that  
provide the kiosk, the space for the kiosk and/or  
those that provide the services that are accessible  
by virtue of the kiosk.

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According to the present invention,  
revenue may be generated for image data processing

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invention. Generated revenue may be distributed  
using any number of distribution schemes to the  
kiosk host (e.g., a hotel, shopping mall, etc.), the  
kiosk manufacturer and/or a photo services provider.  
The revenue generated from advertisement may be used  
to supplement the cost of some or all of the image  
data processing services.

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According to an aspect of the invention,  
a system configured to provide digital image  
services and generate revenue therefrom may include  
storage for advertising information and retrieved

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This brief summary has been provided so that the nature of the invention may be understood quickly. A more complete understanding of the invention can be obtained by reference to the following detailed description of the preferred embodiment(s) thereof in connection with the attached drawings.

WHAT IS CLAIMED IS:

1. A method of providing digital image services and generating revenue therefrom, the method comprising:

5 receiving, at a first location, image data retrieved from removable storage media and storing the image data at the first location;

Redacted

10 responsive to an output request, generating output of the image data, the output including the advertising information,

wherein revenue is generated from the use of the advertising information.

15 2. A method according to Claim 1, further comprising:

responsive to a request at the first location, uploading the image data from the first location to a second, remote location.

20 3. A method according to Claim 1, wherein the output is hardcopy output.

25 4. A method according to Claim 3, wherein other revenue is generated from purchase of the hardcopy output.

30 5. A method according to Claim 3, wherein the hardcopy output is a postcard.

6. A method according to Claim 3, wherein the hardcopy output is a photograph.

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10. A method according to Claim 1, wherein the display includes a display of the image data and the advertising information.

11. A method according to Claim 1, wherein the display includes a display of the image data.

12. A method according to Claim 11, wherein the displayed image data is a thumbnail image of the image data.

13. A system configured to provide digital image services and generate revenue therefrom, comprising:

advertising data store accessible locally for storing advertising information;

image data store accessible locally for storing image data uploaded from removable storage media;

5 receiving station capable of interfacing with a device to retrieve the image data from the removable storage media; and

server configured to save image data received from the receiving station to the image data store and to save received advertising  
10 information to the advertising data store, and to respond to a request to output the image data the server outputting the advertising information with the image data,

15 wherein revenue is generated from the advertising information.

14. A digital image services system according to Claim 13, wherein the server is configured to upload the image data to a remote  
20 server.

15. A system according to Claim 14, wherein the remote server provides image data processing services, other revenue is generated from  
25 the purchase of at least one of the services.

16. A system according to Claim 13, further comprising:

30 a set-top box connected to the server, the set-top box configured to display a user interface

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ABSTRACT

The present invention comprises a system  
and method for providing image processing services  
and deriving revenue from such services as well as  
5 revenue from placement of advertising information  
passed on to users. A local image service center

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December 15, 2000

VIA FACSIMILE

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This to confirm receipt of the inventors' comments on our first draft of the background and summary for the above MOI.

Based on their comments, and based on the information and materials you provided to us, we have now prepared a first draft of a patent application, a copy of which is attached. Please have it reviewed for technical accuracy and for completeness and get back to me if there are any comments.

Redacted

**DIGITAL IMAGE SERVICE AND REVENUE GENERATION  
BACKGROUND OF THE INVENTION**

Field Of The Invention

5                   The present invention relates to supplying  
services for uploading and processing image data  
such as that image data captured using digital image  
acquisition devices including still and video  
cameras as well as image data stored on removable  
10   storage media such as compact flash, smartMedia and  
memory stick storage media. More particularly,  
image data may be retrieved locally using an image  
service that offers selectable services to process  
the image data and/or distribute the image data.  
15   Revenue is produced from the services selected by  
users as well as by revenue received from  
advertisers whose advertisements are passed on to  
the users.

Description Of The Related Art

Digital cameras are becoming more popular, particularly as the quality of a captured image begins to approach the quality of analog cameras (e.g., 35MM cameras). However, there are still some drawbacks with digital cameras. A digital camera has limited storage capacity which gives rise to a need to be able to transfer images captured by the digital camera to external storage.

Most digital cameras typically use some type of removable storage media such as a CF (compact flash) card, Redacted media, to store captured images. However, the price for removable media can be quite high. For example, the price of a 128 megabyte (MB) compact flash card is approximately \$350.00, and the price of a 64MB compact flash card is approximately 108.00. A purchaser is not likely to want to purchase the removable media unless it can be seen that its level of use can justify the cost of the media.

The storage capacity needed typically depends on the amount of image data needed to be stored before being able to offload the data to external storage. Thus, a digital camera user may minimize the amount of removable media needed by uploading captured images to external storage media (e.g., a hard drive) periodically rather than purchasing additional removable media.

Typically, a digital camera user retrieves image data saved in the camera's storage (e.g., the

removable media) using a personal computer, or PC. There are times, however, when a digital camera user may not have access to a PC or other mechanism for uploading captured images. For example, while on  
5 vacation, a digital camera user may not have the ability to store the image data to a PC or other external storage. In such a case, it may be necessary to purchase additional removable media that the user would not otherwise need.

10 Recently, photo kiosks have been designed for placement in various locations (e.g., retail stores, airports, hotels, etc.) for receiving image data. A photo kiosk is typically a booth, or some type of structure that houses the hardware (e.g.,  
15 display, computing system, etc.) needed to carry out the local functions of the kiosk. A photo kiosk typically includes a type of computer processing system with a display and may include other devices such as a scanner, removable media reader, printer,  
20 CD-ROM drive, modem and the like. In addition, the photo kiosk includes the software needed to configure the computer system to provide functionality local to the kiosk.

In a case that the kiosk has a computer  
25 system that is to be used to retrieve image data, the system includes software to allow a user to retrieve image data for transfer to external storage. In addition, a photo kiosk may offer the ability to generate hardcopy prints of the image  
30 data, retouch an image, and upload the image to the Internet. Where the hardcopy prints are generated

at the photo kiosk, the kiosk includes a printer of some kind to generate the hardcopy output.

5       The more capability that is provided by the kiosk, the greater the manufacturing costs. In order to provide incentive for a manufacturer to manufacture a kiosk, the manufacturer should recoup the manufacturing costs involved as well as make a profit.

10       Like the manufacturer, there should be some incentive for a site such as a retail store or a hotel to provide space for a photo kiosk. Incentive may be provided in the form of monetary gains and/or goodwill, for example. If the incentive is primarily to increase goodwill with a patron by  
15       offering the services provided by the photo kiosk, it is beneficial to be able to offset the cost of the kiosk services offered to a user in some manner.

20       Thus, it would be beneficial to be able to provide a method of producing revenue for each of the parties involved in providing the kiosk and the services provided by the kiosk. In addition, it would be beneficial to be able to produce additional revenue in the form of revenue subsidies that may be used, for example, to offset the cost of the kiosk  
25       or to supplement the revenue generated from services provided via the kiosk.

#### SUMMARY OF THE INVENTION

30       The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as

revenue from placement of advertising information  
passed on to users. A local image service center

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connected to a server computing system, offers

5 services for uploading image data from a storage  
medium to local and/or remote storage as well as  
other services for processing uploaded image data.  
In a case that the local image service center is  
interconnected with a cable television network, the  
10 present invention may be used to access uploaded  
image data and perform image processing operations  
via the cable television network. Revenue is  
derived from the services provided as well as from  
advertisers whose information is passed along to  
15 users.

The revenue that is derived from the  
services and the advertisements may be distributed  
among the various entities such as those that  
provide the kiosk, the space for the kiosk and/or  
20 those that provide the services that are accessible  
by virtue of the kiosk.

According to the present invention,  
revenue may be generated for image data processing

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advertisements are distributed to kiosk users via  
the present invention. Generated revenue may be  
30 distributed using any number of distribution schemes  
to the kiosk host (e.g., a hotel, shopping mall,

etc.), the kiosk manufacturer and/or a photo services provider. The revenue generated from advertisement may be used to supplement the cost of some or all of the image data processing services.

5           According to an aspect of the invention, a system configured to provide digital image services and generate revenue therefrom may include storage for advertising information and retrieved

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10           provides an interface with a device that is able to retrieve image data from removable storage media such as that used in a digital image acquisition device (e.g., a still or video camera or a scanning device). A server receives the image data from the

15           Redacted

In addition, the server receives and stores advertising information.

          In response to an output request, the server outputs the advertising information with the  
20           image data. For example, the server may generate a postcard that includes a photo taken in front of a restaurant as well as an advertisement that includes a picture of the restaurant. In addition, the server may output image data for storage to  
25           persistent removable storage media. Additional services include, but are not limited to, transferring image data to recipients or locations (e.g., photo sharing web site) designated by the user. The image data transfer may be performed via  
30           electronic mail transfer or via a file transfer operation.

This brief summary has been provided so that the nature of the invention may be understood quickly. A more complete understanding of the invention can be obtained by reference to the following detailed description of the preferred embodiment(s) thereof in connection with the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an outward view of computing hardware used in providing digital image services and generating revenue according to the present invention.

Figure 2 is a block diagram of the internal architecture of a computer system according to the present invention.

Figure 3 provides an example of revenue generation and distribution according to the present invention.

Figure 4 illustrates a regional broadband digital cable network that is used to provide digital image services and generate revenue according to the present invention.

Figure 5 illustrates representative software architecture of a set top box according to the present invention.

Figure 6 provides an overview of an architecture for use in transferring digital image data and associated information between a cable head end and a set to box according to the present invention.



Figure 7 is a user interface that may be displayed on television 11 for ordering digital image data services and presenting advertising information according to the present invention.

5                Figures 8A and 8B illustrate flow diagrams of process steps to provide image services and generate revenue according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

10              Figure 1 is an outward view of computing hardware used in providing digital image services and generating revenue according to the present invention.

15              Server 104 is a computer system that is configured to receive advertising information from advertiser 103 and to cause the advertising information to be stored in advertising database 101. In addition, server 104 receives, via station 108, image data as well as information associated  
20              with a user 110 and causes the image data and user data to be stored in image database 102.

25              Station 108 is a computing system that is configured to interact with user 110 to retrieve and/or process images stored on removable media 109. Station 108 may be a photo kiosk, for example, or other image service center device with computing capability and an ability to interface with user 110. Station 108 interfaces with removable media 109 so as to cause information stored on removable  
30              media 109 to be retrieved and/or to store information on removable media 109. Examples of

removable media 109 include, but are not limited to, compact flash, smartMedia, memory stick, CD-ROM,

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5                   Server 104 interacts with portal 105 and  
may access web server 106 via portal 105. As is  
described in more detail below, server 104 interacts  
with cable television (or CATV) system 107 to allow  
10                   user 110 to perform various operations involving  
image data uploaded via station 108 to image  
database 102.

                  Server 104 may be hosted by a business  
such as a hotel, retail store, public attraction,  
restaurant, movie theater, etc., and advertiser 103  
15                   is an entity whose goods and/or services would be of  
interest to user 110, such as a business that is  
local to the host business. Examples of advertiser  
103 include, but are not limited to, a restaurant,  
store, tourist attraction, movie theater, hotel,  
20                   etc.

                  In one revenue generation approach  
described in more detail below, portal 105 is  
supplied by the same entity that supplies station

25                   Redacted

copies of the uploaded image data. However, it  
should be apparent that the goods and/or services  
described herein as being provided by a single  
30                   entity may be provided by more than one entity. In  
such a case, revenue generated according to the

present invention may be divided among the different entities.

Advertising information is gathered from advertiser 103 by server 104. As is shown in Figure 1, more than one server 104 may be connected to portal 105. Thus, it is possible that server 104 may include advertising information uploaded directly to server 104 by advertiser 103 as well as advertising information uploaded to another instance of server 104 and forwarded (via portal 105) to the first instance of server 104. Advertiser 103 may elect to run a local advertising campaign using a local server 104, or expand its advertising to multiple locations and instances of server 104. An instance of server 104 may therefore store, in advertising database 101, local advertising information geared for a local audience as well as advertising information for a more diverse, or widespread audience. Thus, server 104 can receive advertising information that is unique to server 104 as well as advertising information that is shared between instances of server 104.

Figure 2 is a block diagram of an internal architecture of a computer system, such as station 108, server 104, portal 105 or web server 106, according to the present invention. Shown in Figure 2 are CPU 20, which is preferably a Pentium-type microprocessor, interfaced to computer bus 21. Also interfaced to computer bus 21 are printer interface 25, to allow station 108 to communicate with a printer, modem interface 29 to enable communications

between station 108 and a modem, network interface  
26 to enable communication with a network (e.g., a  
local area network, intranet, etc.), display  
interface 27 for interfacing with a display monitor,  
5 keyboard interface 28 for interfacing with a  
keyboard, and pointing device interface 23 for  
interfacing with a pointing device (e.g., a mouse).  
Scanner interface 22 provides an interface to a  
scanning device, and read/write device interface  
10 allows the computer system to communicate with  
devices configured to read from and write to  
removable storage media.

Read only memory (ROM) 24 stores invariant  
computer-executable process steps for basic system  
15 functions such as basic I/O, start up, or reception  
of keystrokes from keyboard.

Main random access memory (RAM) 30  
provides CPU 20 with memory storage which can be  
accessed quickly. In this regard, computer-  
20 executable process steps are transferred from disk  
12 over computer bus 21 to RAM 30 and executed  
therefrom by CPU 20.

Also shown in Figure 2 is disk 12 which,  
as described above, preferably includes a windowing  
25 operating system, a web browser executable on the  
particular windowing operating system. Other  
applications may include graphics and electronic  
mail applications, for example, as well as image  
retrieval and editing applications. Disk 12 further  
30 includes data files and device drivers as shown.

Server 104, portal 107 and web server 106 have a similar internal architecture to that of station 108. Preferably, server 104 and portal 107 are interconnected via the internet.

5                   To facilitate communication with the internet, server 104, portal 107 and web server 106 may further include a TCP/IP layer wherein the TCP portion of a packet received via the internet is removed and an HTTP or, in a case of a secure (e.g.,  
10 encrypted) packet, an HTTPS packet is forwarded to HTTP, or HTTPS, server software, respectively. The HTTP (or HTTPS) server software may forward the request to an application so that the application may respond to the request, the response being  
15 forwarded to the requester via the HTTP, or HTTPS, Server, the TCP/IP Layer and the internet.

                  The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as  
20 revenue from placement of advertising information passed on to users. Revenue may be generated from goods and services rendered according to the present invention.

                  Image processing services including image  
25 data upload, storage, forwarding, and output to print and persistent removable media storage, for example are provided using computing hardware such as that described above.

                  The revenue that is derived from the  
30 services and the advertisements may be distributed among various entities. Revenue may be derived from

image processing services and output supplied to user 110 as well as advertising services rendered to advertiser 103. Figure 3 provides an example of revenue generation and distribution according to the present invention.

Advertising fee 310 is paid by advertiser 103 to host 304. The manner of calculating advertising fee 310 may vary. For example, advertising fee 310 may be based on an actual, or potential, number of users 110 to receive the advertising information of advertiser 103. Alternatively, advertising fee 310 may be based on a number of advertisements provided to host 304 by advertiser 103. A different calculation of advertising fee 310 may be applied by host 304 to different advertisers 103. In addition, advertising fee 310 may depend on whether the advertising information is distributed to a single instance of host 304 or to multiple instances of host 304.

According to the present invention, revenue may be generated for image data processing services (e.g., generating copies such as a print copy or a persistent storage copy on media such as CD-ROM, DVD-ROM and Iomega's ZIP disks) provided to user 110.

Media storage fee 311 is paid by user 110 to host 304 in a case, for example, that host 304 supplies, or causes to be supplied, to user 110 a copy of image data stored on persistent storage media. In addition, user 110 may pay a local print fee 312 to host 304, in a case that host 304

generates, or causes to be generated, print output of image data. User 110 pays a photo processing fee 313 for photographs, or other print output, to image processing vendor.

5                   Revenue generated from advertising fee 310, media storage fee 311, local print fee 312 and/or image processing fee 313 may be distributed to the various entities such as host 304 and portal 305 to generate profit and offset the costs involved  
10 in supplying the hardware and services.

                  It is further possible to use revenue generated to provide one or more services free of charge. For example, it is possible to offer free uploading of image data by user 110 to server 104  
15 via station 108.

                  In addition to station 108, image data retrieved using station 108 and stored in image database 102 may be accessed, according to the present invention, from CATV system 107. CATV  
20 system 107 may be a broadband digital cable network such as that illustrated in Figure 4.

                  As depicted in Figure 4, the broadband digital cable network may be connected to the internet (or World Wide Web, WWW) 4. The digital  
25 cable network is capable of delivering analog and digital broadcasts, secure analog and digital broadcasts, analog and digital pay-per-view, analog and digital impulse pay-per-view, digital near video on demand, one-way real-time datagram (broadcast IP  
30 data packets), and two-way real-time datagram (addressed IP data packets). In addition, according

to the present invention, the regional broadband digital cable network is used to transmit digital image data and associated information.

5 The above-listed broadcast services may be delivered by value-added service provider systems and network control systems (not shown) located at cable head end (CHE) 6. Value-added service provider systems include digital satellite distribution systems, applications executing on  
10 cable servers (such as special-purpose applications like subscriber service application, content gather applications, etc.) and digital media servers outputting MPEG-2 datastreams. Network control systems provide management and control for the  
15 services supported by the broadband network.

Alternatively, services may be delivered from internet 4 through internet proxy 5, for example, from internet site 8. Examples of internet  
20 site 8 include photo service providers, banking, retailing, utilities, and the like.

In either case, the services are delivered to Cable Head End (CHE) 6, which serves as an interface between the service providers and the rest of the broadband network.

25 In particular, CHE 6, which is responsible for providing services to multiple nodes 9 (e.g., approximately 500,000 to 1,000,000), is connected via fiber optic cabling to hubs 7, which are connected to CHE 6 or other hubs 7. Each hub 7 is,  
30 in turn, connected to at least one node 9, also using fiber optic cabling. Coaxial cable is then



used to connect each node to Set Top Boxes (STB's)  
10. For instance, the STB 10 may be one of several  
currently available STB models available such as  
Scientific Atlanta's Explorer series and General  
5 Instrument's DCT-2000 and DCT-5000+ models. While  
the present invention is described with regard to a  
STB, it should be apparent that any type of home  
interface control (HIC) that interfaces with a  
broadband network such as a digital cable network  
10 may be used. Finally, each STB 10 is connected to  
television 11 and may be connected to other devices  
not shown (e.g., printer, scanner, etc.).  
Accordingly, services are delivered from a service  
provider to CHE 6, to one or more hubs 7, to node 9,  
15 to STB 10 and to television 11.

It should be noted that, by virtue of the  
foregoing arrangement, a service infrastructure may  
be distributed among CHE 6, hubs 7, or other  
facilities. Further, while the present invention is  
20 described with reference to a digital cable network  
of Figure 4, it should be apparent that any  
broadband network interconnection may also be used  
between a client such as STB 10 and a server such as  
CHE 6. For example, it is possible to use a  
25 satellite, or other connection, with the present  
invention. CHE 6 may be a separate, or the same,  
computer system as server 104.

Figure 5 illustrates representative  
software architecture of a set top box (e.g., set  
30 top box 10) according to the present invention. In  
general, this software architecture, together with

the hardware architecture of the set top box, supports, in addition to the reception of analog and digital services, the transmission of digital image data and associated information.

5                   Through the software architecture  
illustrated in Figure 5, STB 10 hosts various  
applications that present to the home user  
functionality offered by various cable services.  
Typical applications are a navigator, an interactive  
10   program guide, electronic mail and a web browser.  
Most of these applications are client/server  
implementations, where STB 10 hosts the client  
software, and CHE 6 hosts the server software.  
Communication between client and server over the  
15   cable network is facilitated by an operating system  
executed on STB 10, and is performed through API's.  
One example of an API that may be used to  
communicate between CHE 6 and STB 10 is a broadband  
protocol transport (BPT) which is offered by Canon  
20   Information Systems, Inc. of Irvine, California.  
However, it should be apparent that any protocol  
suitable for use over a broadband network may be  
used with the present invention As is described  
herein, CHE 6 and STB 10 may communicate using the  
25   Hypertext Transfer Protocol (HTTP). Depending on  
the hardware platform and the operating system,  
applications may be resident at STB 10, or can be  
downloaded from a remote site including servers  
situated at, or available via, CHE 6 for execution  
30   at STB 10.

As shown in Figure 5, software architecture and STB 10 includes an interface 32 to hardware, an operating system 35, an HTML client 34, resident applications 33, and other applications 36.

5 As is described in more detail below, resident applications 33 includes a resident device module that operates to cause a loadable device module to be loaded. The loadable device module is configured to communicate with CHE 6 to transfer digital image data and associated information between STB 10 and CHE 6.

The operating system 35 is usually vendor-specific for the STB, and may include operating systems such as PowerTV, WinCE, MicroWare or OpenTV.

15 HTML client 34 provides a group of independent handlers that can be plugged together in conformity to known plug-in specifications so as to provide ability to handle different types of media such as HTML, GIF, MPEG, HTTP, Java script, etc. The HTML client 34 is used to allow STB 10 to render HTML documents to a windows manager for display on the local television receiver. HTML documents may be retrieved from local cache, from in-band and out-of-band broadcast carousels, VBI streams, HTTP proxy servers located at CHE 6, or remote HTTP servers accessed by STB 10 over the internet. In the latter case, documents retrieved from external web servers are filtered by a proxy according to predefined filtering criteria (such as surf watch), which also

20 25 30 may convert requested documents into formats supported by the HTML client 34.

Resident applications 33 include such applications as the aforementioned resident device module, navigator, interactive program guide, and the like. Applications 33 and 36 include a web browser, an e-mail program, loadable device module, and the like.

Figure 6 provides an overview of an architecture for use in transferring digital image data and associated information between a cable head end and a set to box according to the present invention.

As part of hardware interface 32, device driver 602 provides an interface to device 601 external to STB 10 and connected via an interface to STB 10. Examples of such an interface include a Universal Serial Bus (USB), parallel and a IEEE 1394 interface connection. Device 601 is, for example, a digital device such as a still or video camera or a scanning device. Alternatively, device 601 may be a device (e.g., a reader) that is capable of retrieving data stored on a removable storage media such as a compact flash card, smart media or memory stick media, for example. Thus, device 601 is a digital image storage device that may or may not additionally be able to acquire, or capture, digital image data. Device driver 602 is configured to send and receive messages to and from device 601.

Device driver 602 detects device 601 when it is plugged into an external interface of STB 10. Information received by device driver 602 from device 601 is forwarded to resident device module

603. Such information includes type, or  
identification, information such as manufacturer and  
product identification information, and may also  
include information associated with user 110 (e.g.,  
5 name, password, etc.).

Resident device module 603 identifies an  
appropriate loadable device module 604 for use in  
communicating with device 601 and CHE 6 to transfer  
image data and associated information. Where the  
10 identified loadable device module 604 is not  
available on STB 10, resident device module 603  
causes loadable device module 604 to be transferred  
to STB 10 and initiated on STB 10. Loadable device  
module 604 may be transferred from a location that  
15 is accessible to STB 10.

Loadable device module 604 communicates  
with upload server via a broadband protocol  
transport (BPT) application programming interface  
(API) 605 that interfaces with broadband transport  
20 client 606 and broadband transport server 608  
components executing on STB 10 and CHE 6,  
respectively. Communication channel 607 is formed  
over broadband digital cable network and is used to  
transmit such information as device settings, images  
25 and queries, for example. In addition to  
transmitting image data and associated information,  
communication channel 607 may be used to request and  
receive loadable device module 604.

Image data received by upload server 610  
30 is stored in database (or data store) 612. Requests  
for stored image data may be received by imaging

server 613. For example, HTTP client 616 executing on STB 10 may forward a request (e.g., an Hypertext Markup Language, or HTML, request), via communication channel 615, for one or more images via HTTP server 614 to imaging server 613. In addition, imaging server 613 may receive an image request from such internet sites as photo print service provider 618. Where imaging server 613 is server 104, database 612 corresponds to image database 102 and image data stored therein is retrieved in response to such request. Where imaging server 613 is not server 104, imaging server 613 forwards a request to server 104 for the stored image data. Server 104 retrieves the requested image data from image database 102 and forwards the retrieved image data to imaging server 613.

Figure 7 provides examples of displays of a user interface that is displayed on television 11 for manipulating image data according to the present invention. In a series of displays, the user can navigate to a display with options for viewing, printing and storing image data.

Display 701 is a guest menu display that allows the user to choose between guest services, television channel selection and game menu options. In a case that the user selects the guest services option 702, display 703 containing a guest services menu is displayed on television 11. Display 703 includes registration information, hotel information and local attractions information options. Responsive to selection of a hotel information

selection 704, display 705, which includes hotel guide and hotel services options, is displayed. In a case that a hotel services option 706 is selected, display 707 is displayed in response. In display 5 707, the hotel services menu includes a digital photo service option 708 which when selected causes display 709 to be displayed.

In a case that a view photos option 718 is selected in display 709, display 710 is provided 10 which includes thumbnail images corresponding to image data stored in image database 102.

Advertising information may be displayed in display 710. For example, advertising information may be displayed in border area 712 surrounding the 15 thumbnail images.

User 110 may select a thumbnail image 711 in display 710 to cause an image corresponding to thumbnail image 711 to be displayed in display 713. Advertising information may be displayed in display 20 713 such as in border area 715 surrounding image 714 in display 713.

Returning to display 709, in a case that user 110 chooses the print photos selection 719, display 716 is displayed on the screen of television 25 11. Display 716 includes a section for displaying thumbnail images that correspond to stored image data. While not shown in display 709, a scrolling capability may be used to allow user 110 to scroll through additional rows (or columns) of thumbnail 30 images. In addition to selecting image data, user

110 specifies a size (or sizes) and number of photographs in each of the selected sizes.

5 A total amount of the processing fees associated with each size photograph ordered based on a price per print is displayed along with an aggregate total. This amount may be charged to user 110 or an account of user 110, for example. In addition, user 110 may specify that the print output is to be generated locally (e.g., a printer made  
10 locally available by host 304), or at a remote location (e.g., web server 106 or image processing vendor 306).

When user 110 selects the create photo CD option 720 in display 716, display 717 is displayed  
15 on television 11. Display 717 allows user 110 to select photos, as in display 716, and indicate the provider (or location) that is to generate the persistent storage medium containing the selected photos.

20 In addition to displays 710 and 712, any and all of the displays of Figure 7 may include advertising information. A similar user interface may also be presented at station 108 which includes a displays 709, 710, 716 and 717 thereby allowing  
25 user 110 to view, print and copy image data from station 108.

Figures 8A and 8B illustrate flow diagrams of process steps to provide image services and generate revenue according to the present invention.

30 At step S801, advertiser 103 uploads advertising information to server 104, and an



account associated with advertiser 103 is updated to reflect any fees for such upload. At step S802, user 110 (e.g., a hotel guest) uploads digital images (at no charge to user 110) using either station 108, or CATV system 107 as described above. At step S803, CATV system 107 receives a request to display a photo services menu (e.g., display 709 of Figure 7).

At step S804, it is determined whether a selection is made and which option (e.g., options 718 through 719) presented in the displayed photo services menu is selected. If it is determined that a view option (e.g., option 718 of display 709) is selected, processing continues at step S805. If it is determined that a print option (e.g., option 719 of display 709) is selected, processing continues at step S815. Alternatively, if it is determined that a store option (e.g., option 720) is selected, processing continues at step S825.

Referring to Figure 8B, in a case that user 110 selects the view photos option 718, display 719 is presented at step S806 to display thumbnail images that correspond to stored image data (e.g., image data uploaded by user 110 in step S802 of Figure 8A). At step S807, a thumbnail image is selected by user 110. In response, image data corresponding to the selected thumbnail image is displayed (e.g., as in display 713) along with advertising information such as that uploaded by advertiser 103 in step S801 of Figure 8A.

In a case that user 110 selects the print option 719, display 716 is presented. At step S816, a thumbnail image corresponding to uploaded image data is selected. At step S817, a print size and quantity is selected, and a print location, or provider, is selected at step S818. At step S819, a print requested is initiated at the request location. And at step S820, an account of user 110 is charged a fee for printing the image data.

If it is determined, at step S804 of Figure 8A, that a create medium selection is made with stored image data, a display (e.g., display 717) is presented to user 110 to select the image data to be copied to the storage medium (e.g., a CD-ROM, etc.). At step S825 of Figure 8A, user 110 selects the thumbnail image(s) corresponding to the stored image data. At step S827, the storage medium is generated with the selected image data. At step S828, an account of user 110 is charged a fee for creating the image data copy on the storage medium.

In this regard, the invention has been described with respect to particular illustrative embodiments. However, it is to be understood that the invention is not limited to the above-described embodiments and that various changes and modifications may be made by those of ordinary skill in the art without departing from the spirit and the scope of the invention.

WHAT IS CLAIMED IS:

1. A method of providing digital image services and generating revenue therefrom, the method comprising:

5           receiving, at a first location, image data retrieved from removable storage media and storing the image data at the first location;

          receiving and storing advertising information at the first location, at least some  
10       portion of the advertising information is unique to the first location; and

          responsive to an output request, generating output of the image data, the output including the advertising information,

15       wherein revenue is generated from the use of the advertising information.

2. A method according to Claim 1, further comprising:

20       responsive to a request at the first location, uploading the image data from the first location to a second, remote location.

3. A method according to Claim 1, wherein  
25       the output is hardcopy output.

4. A method according to Claim 3, wherein other revenue is generated from purchase of the hardcopy output.

5. A method according to Claim 3, wherein the hardcopy output is a postcard.

6. A method according to Claim 3, wherein the hardcopy output is a photograph.

Redacted

8. A method according to Claim 1, wherein revenue is generated from purchase of the hardcopy output.

9. A method according to Claim 1, wherein the output is a display.

10. A method according to Claim 1, wherein the display includes a display of the image data and the advertising information.

11. A method according to Claim 1, wherein the display includes a display of the image data.

12. A method according to Claim 11, wherein the displayed image data is a thumbnail image of the image data.

13. A method according to Claim 1, wherein the output request is generated through a cable television system.

14. A system configured to provide digital image services and generate revenue therefrom, comprising:

5           advertising data store accessible locally for storing advertising information;

          image data store accessible locally for storing image data uploaded from removable storage media;

10           receiving station capable of interfacing with a device to retrieve the image data from the removable storage media; and

          server configured to save image data received from the receiving station to the image data store and to save received advertising  
15   information to the advertising data store, and to respond to a request to output the image data the server outputting the advertising information with the image data,

20           wherein revenue is generated from the advertising information.

15. A digital image services system according to Claim 14, wherein the server is configured to upload the image data to a remote  
25   server.

16. A system according to Claim 15, wherein the remote server provides image data processing services, other revenue is generated from  
30   the purchase of at least one of the services.

17. A system according to Claim 14,  
further comprising:

a set-top box connected to the server, the  
set-top box configured to display a user interface  
5 comprising image processing selections and image  
data.

10  
15  
20  
Redacted

ABSTRACT

The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as revenue from placement of advertising information passed on to users. A local image service center connected to a server computing system, offers services for uploading image data from a storage medium to local and/or remote storage as well as other services for processing uploaded image data. Access to uploaded image data is available via a cable television system. Revenue is derived from the services provided as well as from advertisers whose information is passed along to users.

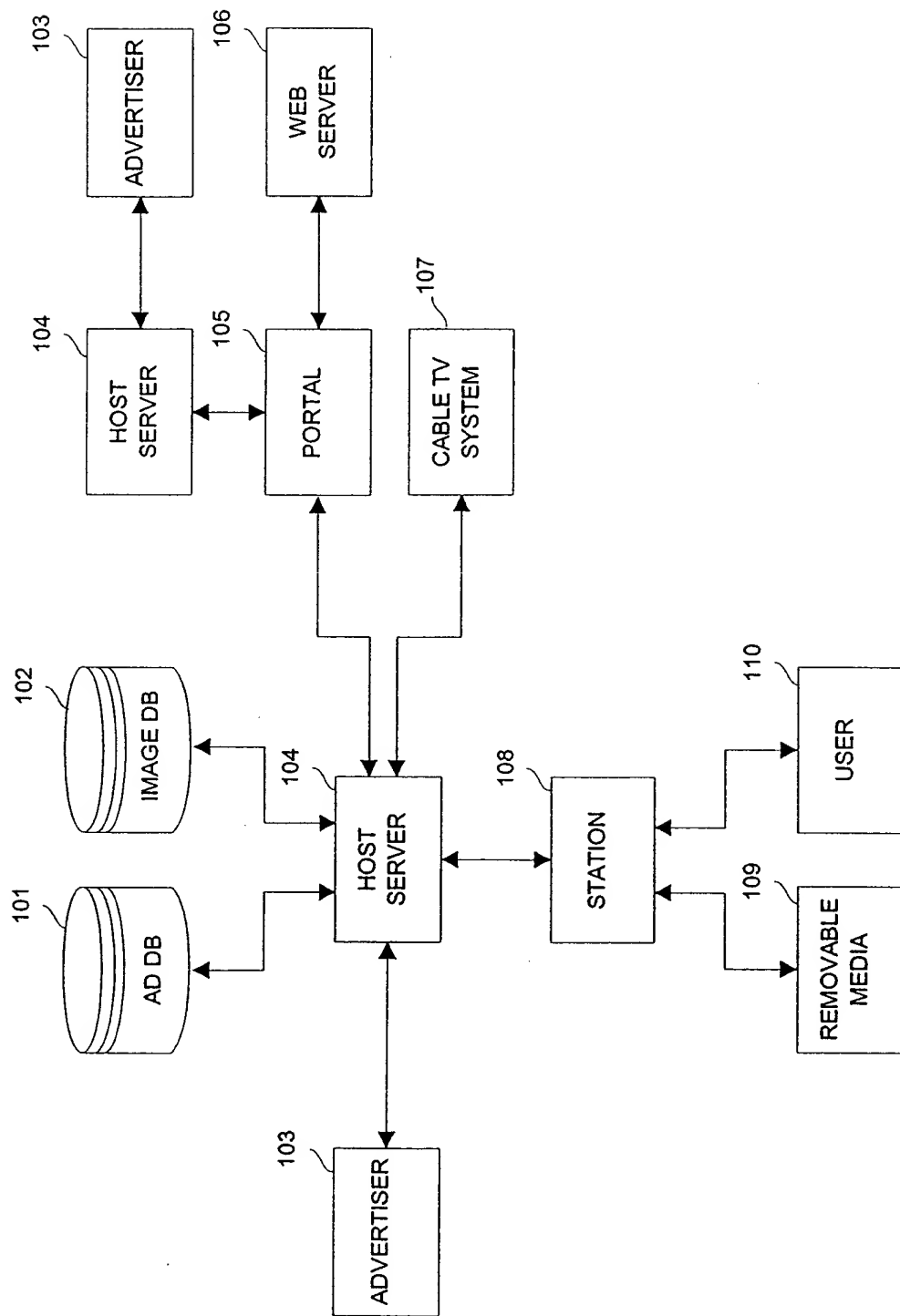


Figure 1



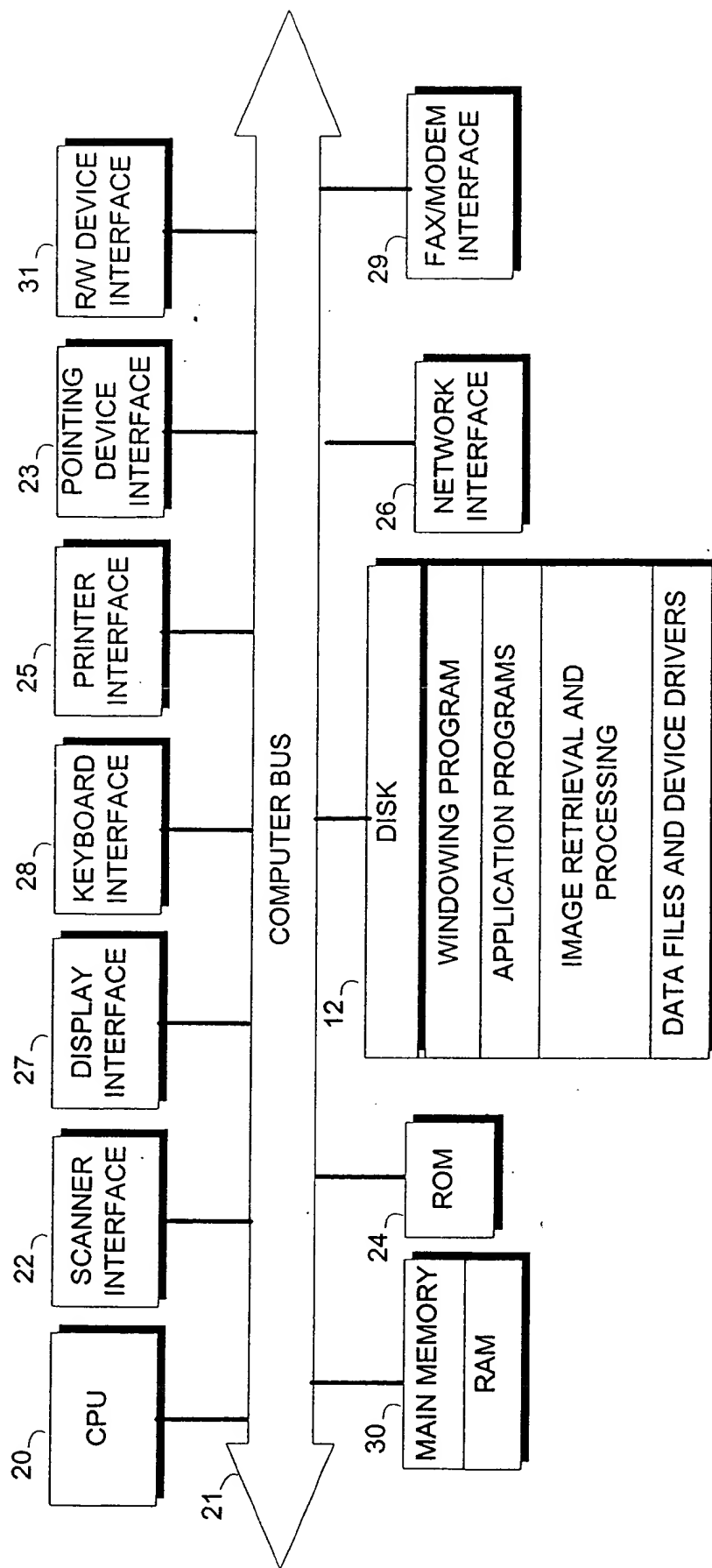


Figure 2

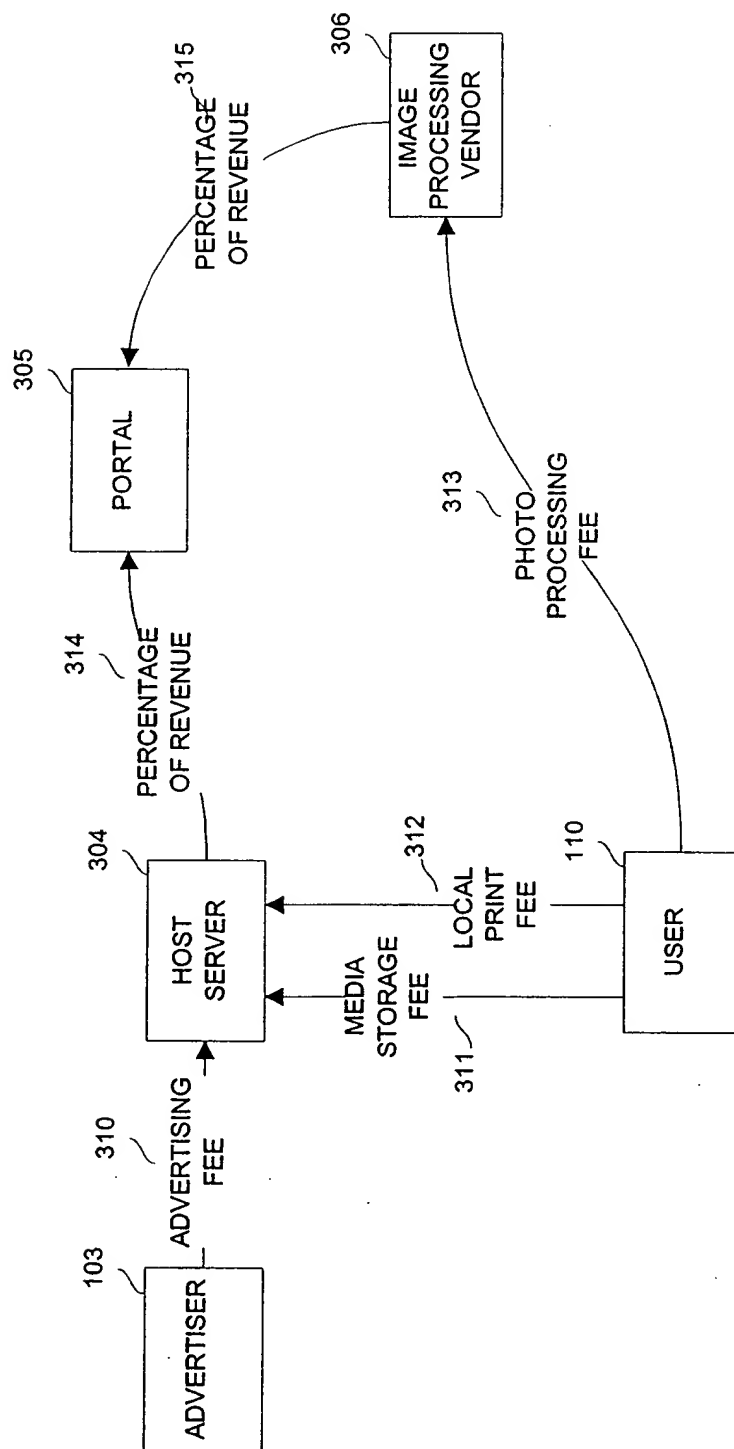


Figure 3

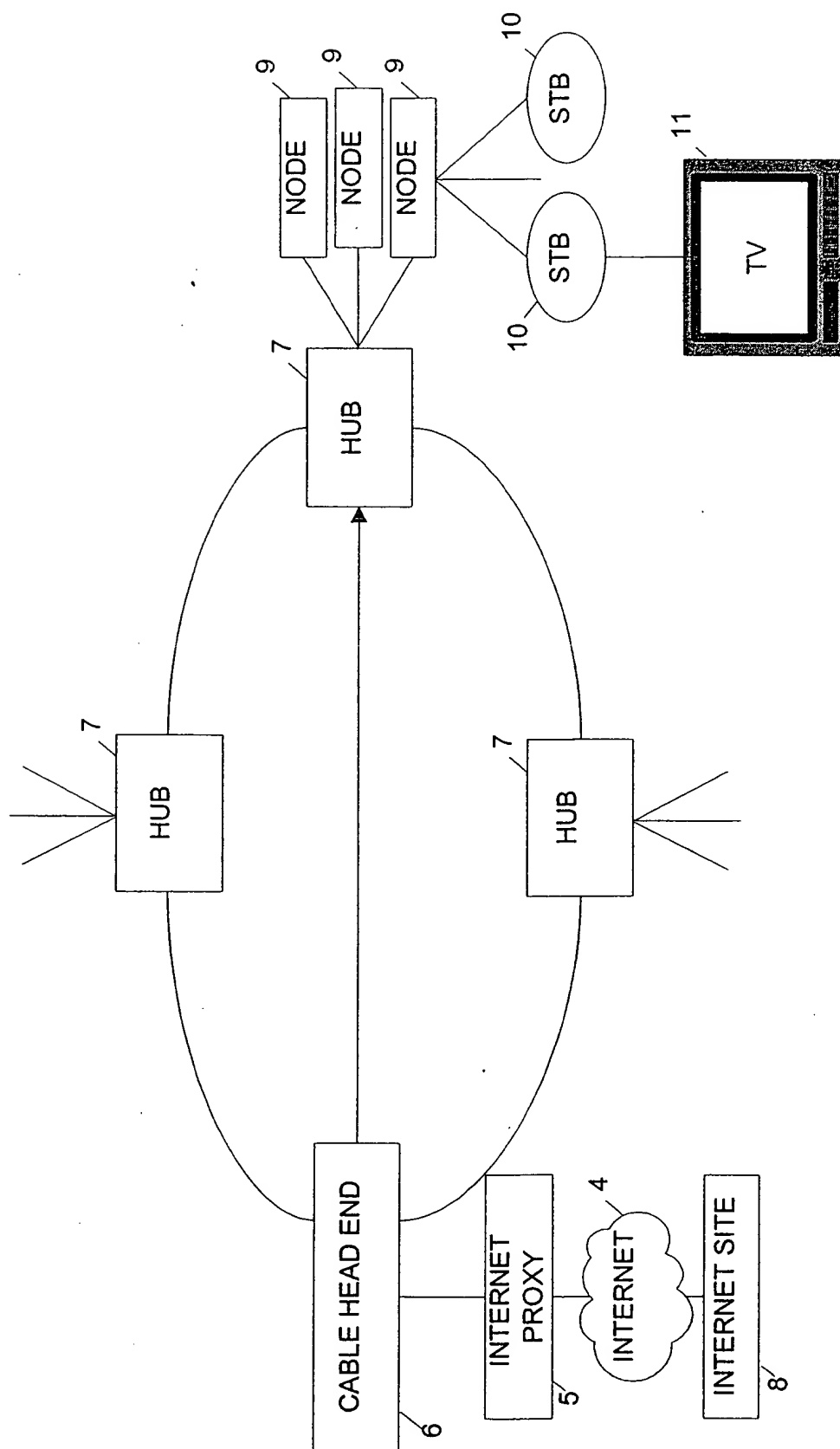


Figure 4

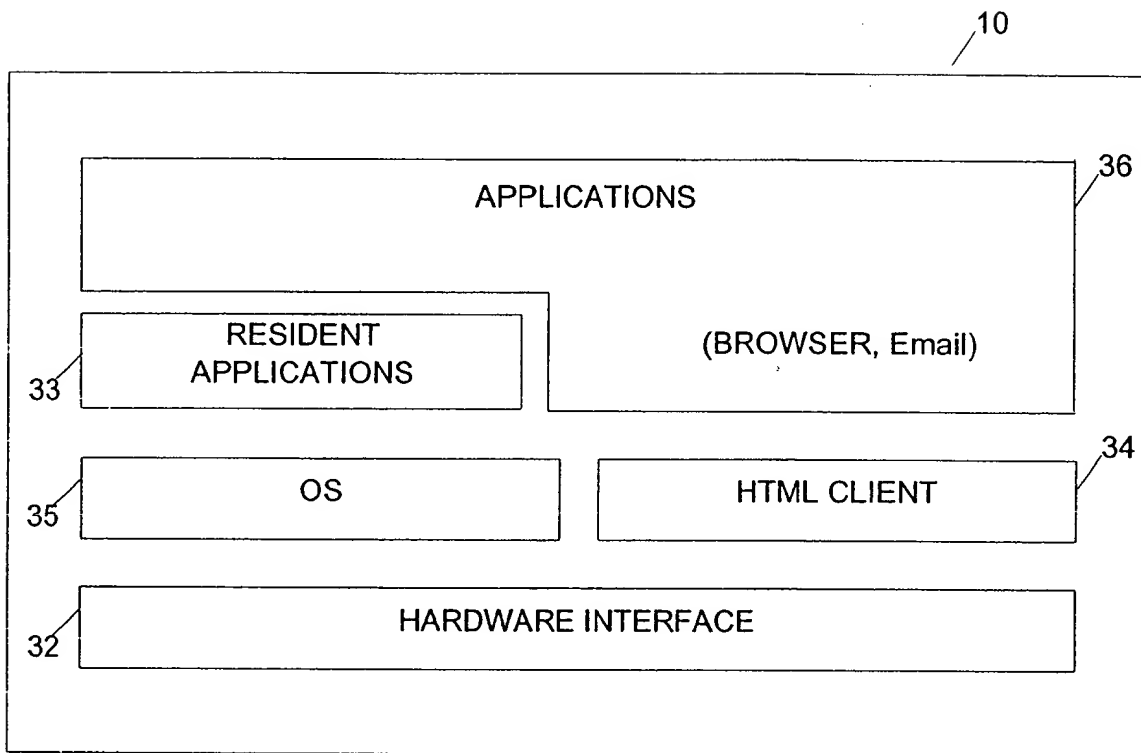


Figure 5

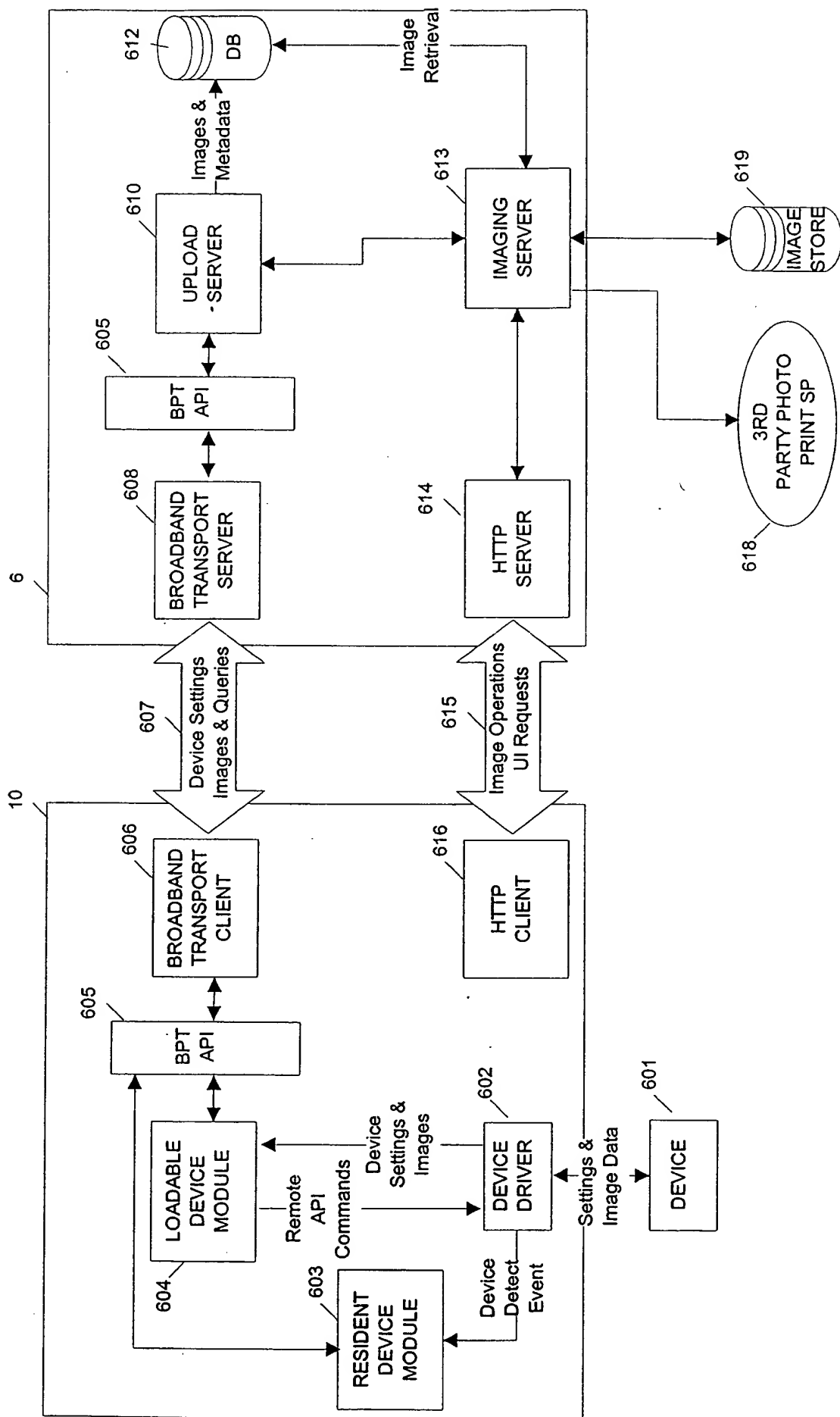


Figure 6

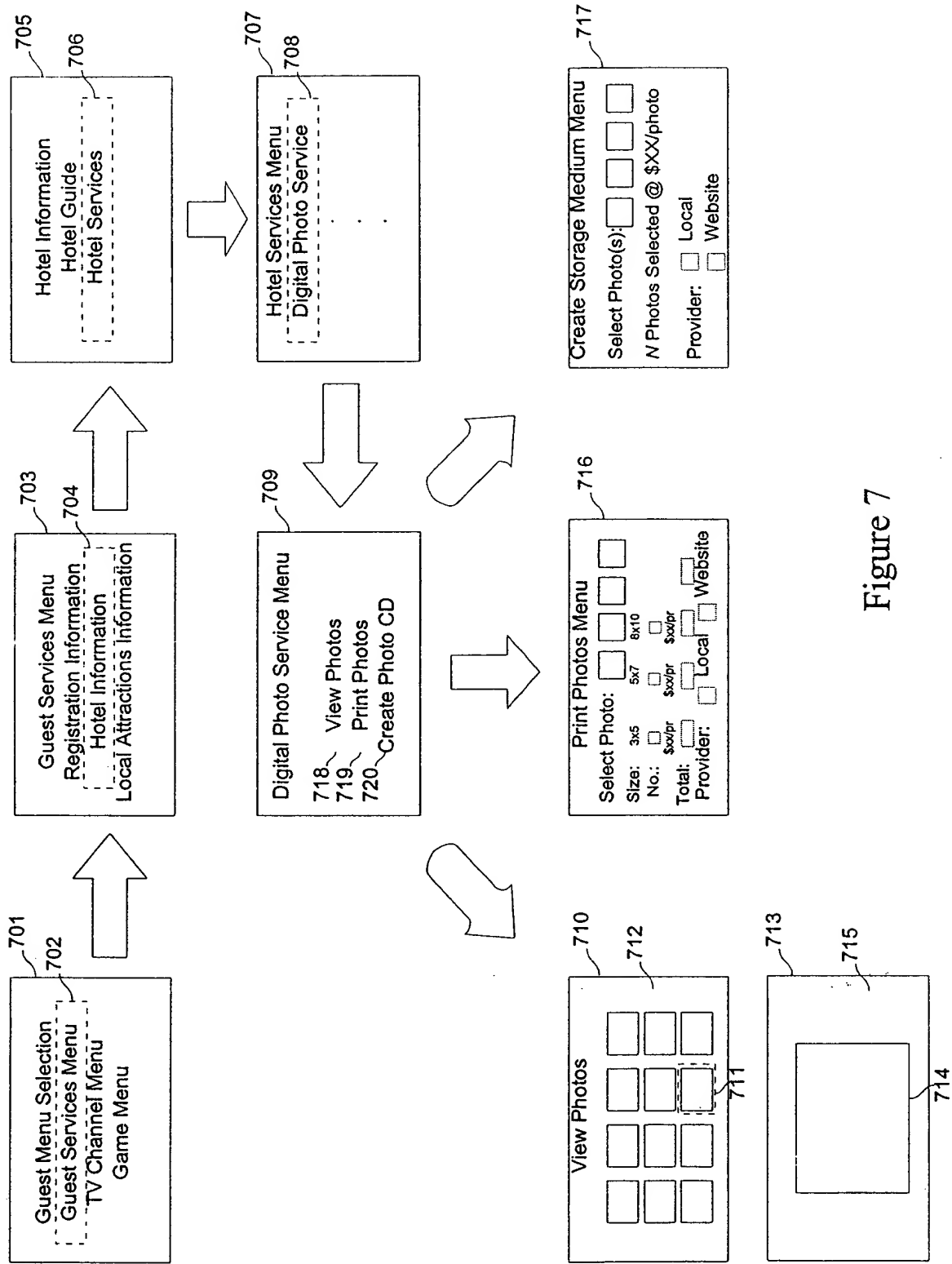
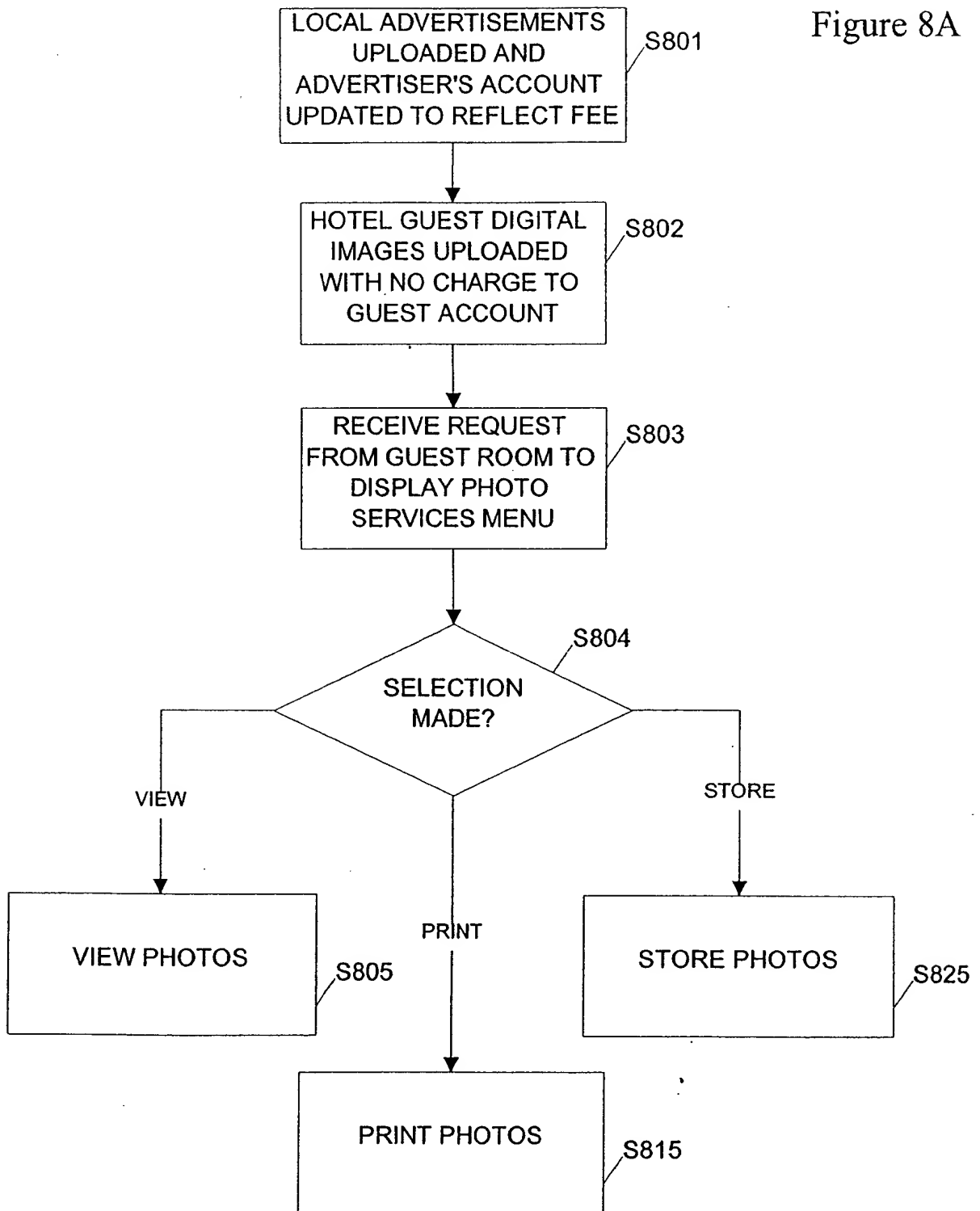


Figure 7

Figure 8A



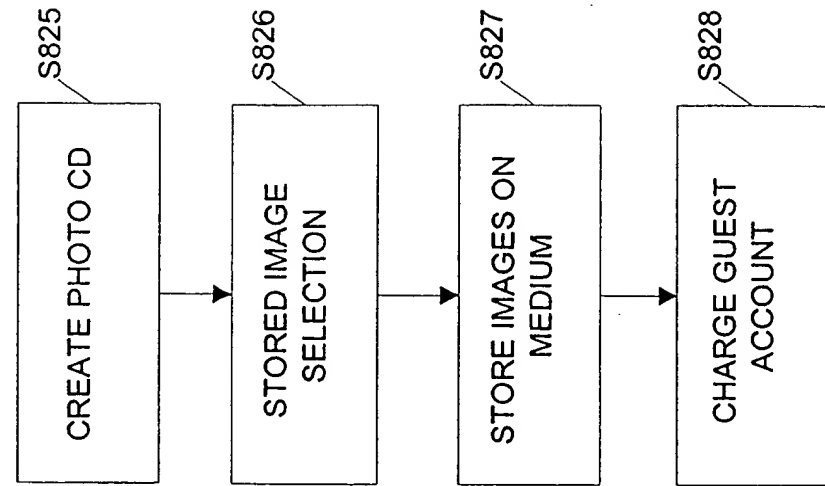
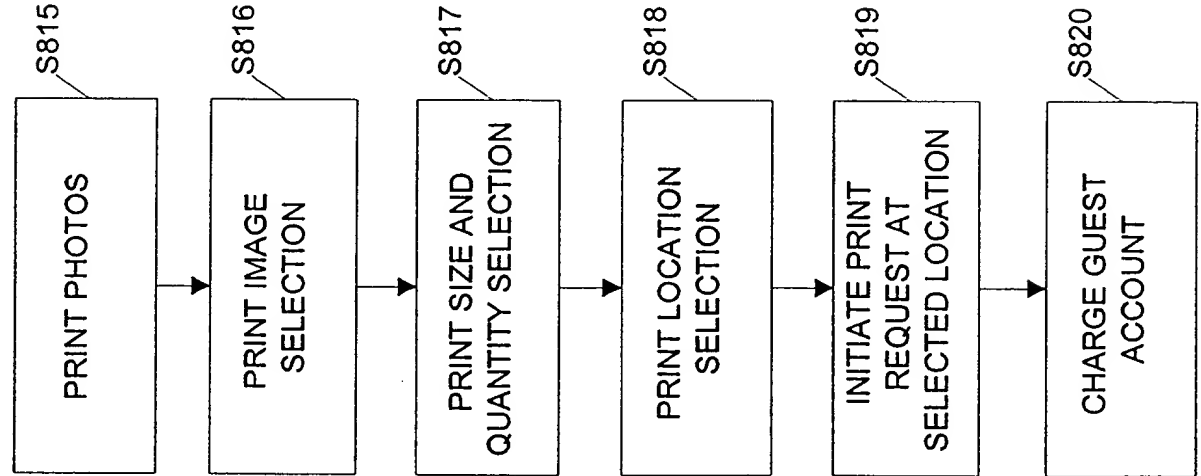
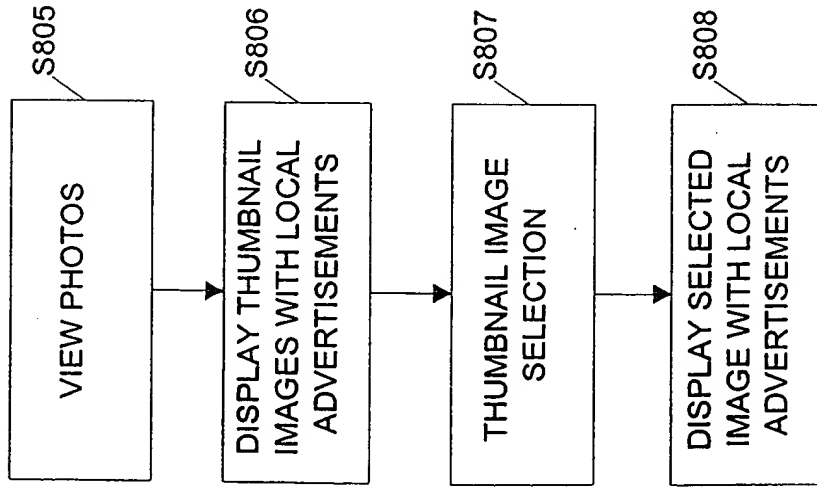


Figure 8B



Redacted

Subject: RE: MOI 611

Date: 1/16/01 12:27 PM Redacted

I believe we have now received all comments from CUSA people on this application and as soon as we receive the final version from Redacted we will be ready to file it.

Redacted

Redacted

Sent: Tuesday, January 09, 2001 9:40 AM

Subject: Re: MOI 611

Redacted

Yes, I have reviewed the MOI.

01/09/2001 09:24

AM

Redacted

Subject: MOI 611

Redacted

By the way, have you all had an opportunity to review the patent application

Redacted

Redacted

**From:** Gibson, Don  
**Sent:** Tuesday, January 16, 2001 11:33 AM  
**Subject:** Redacted  
RE: MOI 611

Redacted

Donald P. Gibson  
4765 Stirlingbridge Cir.  
Yorba Linda, CA 92887  
US Citizen

—Original Message—  
Redacted

Sent: Tuesday, January 16, 2001 11:30 AM  
To: Gibson, Don  
Subject: RE: MOI 611

Don

I know you moved sometime last year, have you filed an application with that new address, if so which one?

Thanks

Redacted

—Original Message—

**From:** Gibson, Don  
**Sent:** Tuesday, January 16, 2001 10:44 AM  
**Subject:** Redacted  
RE: MOI 611

Redacted

I am assuming you have my details of address etc. If not I will be happy to provide them to you again.

Don

Redacted

Redacted

From: ejacobsen@cusa.canon.com  
Sent: Wednesday, January 17, 2001 9:20 AM  
To: Redacted  
Subject: RE: MOI 611

Eric Todd Jacobsen  
5040 Greenhaven Street  
Yorba Linda, California 92887

US citizen

2

Redacted

Redacted

From: jmyers@cusa.canon.com  
Sent: Thursday, January 18, 2001 9:47 AM  
To: Redacted  
Subject: Personal Info for MOI

Redacted

Jeffrey Steven Myers  
1215 West Bay Ave  
Newport Beach, CA 92661

US citizen

Thank you

Redacted

3

Redacted

From: ejacobsen@cusa.canon.com  
Sent: Thursday, January 25, 2001 10:08 AM  
Subject: Re: Data for Patent application

— Forwarded by Eric T. Jacobsen/NewYork/CanonUSA on 01/25/2001 10:04 AM —

Yoshio

Yamashita To: Eric T.  
Jacobsen/NewYork/CanonUSA@CanonUSA  
cc:

01/25/2001 Subject: Re: Data for  
Patent application  
10:06 AM (Document link: Eric T.  
Jacobsen)

*Yamashita*  
Yoshio Yamashita  
303 Santa Maria Drive, Irvine, CA 92606  
Japan

Redacted

Eric T.

Jacobsen To: Yoshio

Yamashita/LosAngeles/CanonUSA@CanonUSA, Seiko  
01/01/25  
Morita/LosAngeles/CanonUSA@CanonUSA, Yoshifumi  
10:04  
Ishikawa/LosAngeles/CanonUSA@CanonUSA  
cc:  
joyce.peluso@cls.canon.com  
Subject: Data for Patent  
application

Yamashita-san, Ishikawa-san Morita-san,

Yoshifumi Ishikawa  
9 Bridgewood  
Irvine, CA 92604  
Japanese Citizen

5



Redacted

From: smorita@cusa.canon.com  
Sent: Thursday, January 25, 2001 11:32 AM  
Subject: Redacted  
Data for Patent application

Redacted

Eric asked me to submit my information to you:

Formal name: Seiko Morita  
Home address: 7 Savona Court, Newport Coast, CA 92657  
Country of Citizenship: Japan

6

Thank you.

Seiko

— Forwarded by Seiko Morita/LosAngeles/CanonUSA on 01/25/01 11:16 AM

Eric T.

Jacobsen To: Yoshio  
Yamashita/LosAngeles/CanonUSA@CanonUSA, Seiko

Morita/LosAngeles/CanonUSA@CanonUSA, Yoshifumi  
01/25/01

Ishikawa/LosAngeles/CanonUSA@CanonUSA  
10:04 AM cc:

joyce.peluso@cis.canon.com

Subject: Data for Patent  
application

Redacted

Redacted

January 31, 2001

VIA COURIER

Redacted

Enclosed is the revised draft (as well as a redline version) of the above-identified patent application that incorporates the inventors' comments.

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**DIGITAL IMAGE SERVICE AND REVENUE GENERATION**  
**BACKGROUND OF THE INVENTION**

Field Of The Invention

5           The present invention relates to supplying  
services for uploading and processing image data  
such as that image data captured using digital image  
acquisition devices including still and video  
cameras as well as image data stored on removable  
10 storage media including, but not limited to, compact  
flash, smartMedia and memory stick, CD-ROM, DVD-ROM,  
ZIP disk and CLICK disk storage media. Image data  
may be retrieved locally using an image service that  
offers selectable services to process the image data  
15 and/or distribute the image data. Revenue is  
produced from the services selected by users as well  
as by revenue received from advertisers whose  
advertisements are passed on to the users.

Description Of The Related Art

Digital cameras are becoming more popular, particularly as the quality of a captured image begins to approach the quality of analog cameras (e.g., 35MM cameras). However, there are still some drawbacks with digital cameras. A digital camera has limited storage capacity which gives rise to a need to be able to transfer images captured by the digital camera to external storage.

Most digital cameras typically use some type of removable storage media, such as a CF (compact flash) card, smartMedia or memory stick storage media, to store captured images. However, the price for removable media can be quite high. For example, the price of a 128 megabyte (MB) compact flash card is approximately \$350.00, and the price of a 64MB compact flash card is approximately 108.00. A purchaser is not likely to want to purchase the removable media unless it can be seen that its level of use can justify the cost of the media.

The storage capacity needed typically depends on the amount of image data needed to be stored before being able to offload the data to external storage. Thus, a digital camera user may minimize the amount of removable media needed by uploading captured images to external storage media (e.g., a hard drive) periodically rather than purchasing additional removable media.

Typically, a digital camera user retrieves image data saved in the camera's storage (e.g., the removable media) using a personal computer, or PC. There are times, however, when a digital camera user may not have access to a PC or other mechanism for uploading captured images. For example, while on

vacation, a digital camera user may not have the ability to store the image data to a PC or other external storage. In such a case, it may be necessary to purchase additional removable media that the user would not otherwise need.

Recently, photo kiosks have been designed for placement in various locations (e.g., retail stores, airports, hotels, etc.) for receiving image data. A photo kiosk is typically a booth, or some type of structure that houses the hardware (e.g., display, computing system, etc.) needed to carry out the local functions of the kiosk. A photo kiosk typically includes a type of computer processing system with a display and may include other devices such as a scanner, removable media reader, printer, CD-ROM drive, modem and the like. In addition, the photo kiosk includes the software needed to configure the computer system to provide functionality local to the kiosk.

In a case that the kiosk has a computer system that is to be used to retrieve image data, the system includes software to allow a user to retrieve image data for transfer to external storage. In addition, a photo kiosk may offer the ability to generate hardcopy prints of the image data, retouch an image, and upload the image to the Internet. Where the hardcopy prints are generated at the photo kiosk, the kiosk includes a printer of some kind to generate the hardcopy output.

The more capability that is provided by the kiosk, the greater the manufacturing costs. In order to provide incentive for a manufacturer to manufacture a kiosk, the manufacturer should recoup the manufacturing costs involved as well as make a profit.

Like the manufacturer, there should be some incentive for a site such as a retail store or a hotel to provide space for a photo kiosk.

5 Incentive may be provided in the form of monetary gains and/or goodwill, for example If the incentive is primarily to increase goodwill with a patron by offering the services provided by the photo kiosk, it is beneficial to be able to offset the cost of the kiosk services offered to a user in some manner.

10 Thus, it would be beneficial to be able to provide a method of producing revenue for each of the parties involved in providing the kiosk and the services provided by the kiosk. In addition, it would be beneficial to be able to produce additional revenue in the form of revenue subsidies that may be  
15 used, for example, to offset the cost of the kiosk or to supplement the revenue generated from services provided via the kiosk.

SUMMARY OF THE INVENTION

The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as revenue from placement of advertising information passed on to users. A local image service center, or kiosk, which includes a receiving station (or terminal) connected to a server computing system, offers services for uploading image data from a storage medium to local and/or remote storage as well as other services for processing uploaded image data. In a case that the local image service center is interconnected with a cable television network, the present invention may be used to access uploaded image data and perform image processing operations via the cable television network. Revenue is derived from the services provided as well as from advertisers whose information is passed along to users.

The revenue that is derived from the services and the advertisements may be distributed among the various entities such as those that provide the kiosk, the space for the kiosk and/or those that provide the services that are accessible by virtue of the kiosk.

According to the present invention, revenue may be generated for image data processing services (e.g., generating hardcopy or storage copies of the image data stored on removable storage media such as CD-ROM, DVD-ROM and Iomega's ZIP and CLICK disk storage media) as well as from an advertiser whose advertisements are distributed to kiosk users via the present invention. Generated revenue may be distributed using any number of distribution schemes to the kiosk host (e.g., a

hotel, shopping mall, etc.), the kiosk manufacturer and/or a photo services provider. The revenue generated from advertisement may be used to supplement the cost of some or all of the image data processing services.

According to an aspect of the invention, a system configured to provide digital image services and generate revenue therefrom may include storage for advertising information and retrieved image data. A receiving station provides an interface with a device that is able to retrieve image data from removable storage media such as that used in a digital image acquisition device (e.g., a still or video camera or a scanning device). A server receives the image data from the receiving station and stores the data in the image storage. In addition, the server receives and stores advertising information.

In response to an output request, the server outputs the advertising information with the image data. For example, the server may generate a postcard that includes a photo taken in front of a restaurant as well as an advertisement that includes a picture of the restaurant. In addition, the server may output image data for storage to persistent removable storage media. Additional services include, but are not limited to, transferring image data to recipients or locations (e.g., photo sharing web site) designated by the user. The image data transfer may be performed via electronic mail transfer or via a file transfer operation.

This brief summary has been provided so that the nature of the invention may be understood quickly. A more complete understanding of the



invention can be obtained by reference to the following detailed description of the preferred embodiment(s) thereof in connection with the attached drawings.

5

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is an outward view of computing hardware used in providing digital image services and generating revenue according to the present invention.

10

Figure 2 is a block diagram of the internal architecture of a computer system according to the present invention.

15

Figure 3 provides an example of revenue generation and distribution according to the present invention.

20

Figure 4 illustrates a regional broadband digital cable network that is used to provide digital image services and generate revenue according to the present invention.

Figure 5 illustrates representative software architecture of a set top box according to the present invention.

25

Figure 6 provides an overview of an architecture for use in transferring digital image data and associated information between a cable head end and a set to box according to the present invention.

30

Figure 7 is a user interface that may be displayed on television 11 for ordering digital image data services and presenting advertising information according to the present invention.

35

Figures 8A and 8B illustrate flow diagrams of process steps to provide image services and generate revenue according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Figure 1 is an outward view of computing hardware used in providing digital image services and generating revenue according to the present invention.

Server 104 is a computer system that is configured to receive advertising information from advertiser 103 and to cause the advertising information to be stored in advertising database 101. In addition, server 104 receives, via station 108, image data as well as information associated with a user 110 and causes the image data and user data to be stored in image database 102.

Station 108 is a computing system that is configured to interact with user 110 to retrieve and/or process images stored on removable media 109. Station 108 may be a photo kiosk, for example, or other image service center device with computing capability and an ability to interface with user 110. Station 108 interfaces with removable media 109 so as to cause information stored on removable media 109 to be retrieved and/or to store information on removable media 109. Examples of removable media 109 include, but are not limited to, compact flash, smartMedia, memory stick, CD-ROM, DVD-ROM, Iomega's ZIP and CLICK disks, smart card, etc.

Server 104 interacts with portal 105 and may access web server 106 via portal 105. As is described in more detail below, server 104 interacts with cable television (or CATV) system 107 to allow user 110 to perform various operations involving image data uploaded via station 108 to image database 102.

Server 104 may be hosted by a business such as a hotel, retail store, public attraction, restaurant, movie theater, etc., and advertiser 103 is an entity whose goods and/or services would be of interest to user 110, such as a business that is local to the host business. Examples of advertiser 103 include, but are not limited to, a restaurant, store, tourist attraction, movie theater, hotel, etc.

In one revenue generation approach described in more detail below, portal 105 is supplied by the same entity that supplies station 108 and storage media (e.g., removable storage media such as a readable or read/writable CD-ROM and DVD-ROM or Iomega's ZIP or CLICK disks, compact flash, smartMedia, etc.) for storing copies of the uploaded image data. However, it should be apparent that the goods and/or services described herein as being provided by a single entity may be provided by more than one entity. In such a case, revenue generated according to the present invention may be divided among the different entities.

Advertising information is gathered from advertiser 103 by server 104. As is shown in Figure 1, more than one server 104 may be connected to portal 105. Thus, it is possible that server 104 may include advertising information uploaded directly to server 104 by advertiser 103 as well as advertising information uploaded to another instance of server 104 and forwarded (via portal 105) to the first instance of server 104. Advertiser 103 may elect to run a local advertising campaign using a local server 104, or expand its advertising to multiple locations and instances of server 104. An instance of server 104 may therefore store, in

advertising database 101, local advertising  
information geared for a local audience as well as  
advertising information for a more diverse, or  
widespread audience. Thus, server 104 can receive  
5 advertising information that is unique to server 104  
as well as advertising information that is shared  
between instances of server 104.

Figure 2 is a block diagram of an internal  
architecture of a computer system, such as station  
10 108, server 104, portal 105 or web server 106,  
according to the present invention. Shown in Figure  
2 are CPU 20, which is preferably a Pentium-type  
microprocessor, interfaced to computer bus 21. Also  
interfaced to computer bus 21 are printer interface  
15 25, to allow station 108 to communicate with a  
printer, modem interface 29 to enable communications  
between station 108 and a modem, network interface  
26 to enable communication with a network (e.g., a  
local area network, intranet, etc.), display  
20 interface 27 for interfacing with a display monitor,  
keyboard interface 28 for interfacing with a  
keyboard, and pointing device interface 23 for  
interfacing with a pointing device (e.g., a mouse).  
Scanner interface 22 provides an interface to a  
25 scanning device, and read/write device interface  
allows the computer system to communicate with  
devices configured to read from and write to  
removable storage media.

Read only memory (ROM) 24 stores invariant  
30 computer-executable process steps for basic system  
functions such as basic I/O, start up, or reception  
of keystrokes from keyboard.

Main random access memory (RAM) 30  
provides CPU 20 with memory storage which can be  
35 accessed quickly. In this regard, computer-

executable process steps are transferred from disk 12 over computer bus 21 to RAM 30 and executed therefrom by CPU 20.

5 Also shown in Figure 2 is disk 12 which, as described above, preferably includes a windowing operating system, a web browser executable on the particular windowing operating system. Other applications may include graphics and electronic mail applications, for example, as well as image  
10 retrieval and editing applications. Disk 12 further includes data files and device drivers as shown.

Server 104, portal 107 and web server 106 have a similar internal architecture to that of station 108. Preferably, server 104 and portal 107  
15 are interconnected via the internet.

To facilitate communication with the internet, server 104, portal 107 and web server 106 may further include a TCP/IP layer wherein the TCP portion of a packet received via the internet is  
20 removed and an HTTP or, in a case of a secure (e.g., encrypted) packet, an HTTPS packet is forwarded to HTTP, or HTTPS, server software, respectively. The HTTP (or HTTPS) server software may forward the request to an application so that the application  
25 may respond to the request, the response being forwarded to the requester via the HTTP, or HTTPS, Server, the TCP/IP Layer and the internet.

The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as  
30 revenue from placement of advertising information passed on to users. Revenue may be generated from goods and services rendered according to the present invention.

Image processing services including image data upload, storage, forwarding, and output to print and persistent removable media storage, for example are provided using computing hardware such as that described above.

The revenue that is derived from the services and the advertisements may be distributed among various entities. Revenue may be derived from image processing services and output supplied to user 110 as well as advertising services rendered to advertiser 103. Figure 3 provides an example of revenue generation and distribution according to the present invention.

Advertising fee 310 is paid by advertiser 103 to host 304. The manner of calculating advertising fee 310 may vary. For example, advertising fee 310 may be based on an actual, or potential, number of users 110 to receive the advertising information of advertiser 103. Alternatively, advertising fee 310 may be based on a number of advertisements provided to host 304 by advertiser 103. A different calculation of advertising fee 310 may be applied by host 304 to different advertisers 103. In addition, advertising fee 310 may depend on whether the advertising information is distributed to a single instance of host 304 or to multiple instances of host 304.

According to the present invention, revenue may be generated for image data processing services (e.g., generating copies such as a print copy or a persistent storage copy on media such as CD-ROM, DVD-ROM and Iomega's ZIP disks) provided to user 110.

Media storage fee 311 is paid by user 110 to host 304 in a case, for example, that host 304

supplies, or causes to be supplied, to user 110 a copy of image data stored on persistent storage media. In addition, user 110 may pay a local print fee 312 to host 304, in a case that host 304

5 generates, or causes to be generated, print output of image data. User 110 pays a photo processing fee 313 for photographs, or other print output, to image processing vendor.

10 Revenue generated from advertising fee 310, media storage fee 311, local print fee 312 and/or image processing fee 313 may be distributed to the various entities such as host 304 and portal 305 to generate profit and offset the costs involved in supplying the hardware and services.

15 It is further possible to use revenue generated to provide one or more services free of charge. For example, it is possible to offer free uploading of image data by user 110 to server 104 via station 108.

20 In addition to station 108, image data retrieved using station 108 and stored in image database 102 may be accessed, according to the present invention, from CATV system 107. CATV system 107 may be a broadband digital cable network  
25 such as that illustrated in Figure 4.

As depicted in Figure 4, the broadband digital cable network may be connected to the internet (or World Wide Web, WWW) 4. The digital cable network is capable of delivering analog and  
30 digital broadcasts, secure analog and digital broadcasts, analog and digital pay-per-view, analog and digital impulse pay-per-view, digital near video on demand, one-way real-time datagram (broadcast IP data packets), and two-way real-time datagram  
35 (addressed IP data packets). In addition, according

to the present invention, the regional broadband digital cable network is used to transmit digital image data and associated information.

5 The above-listed broadcast services may be delivered by value-added service provider systems and network control systems (not shown) located at cable head end (CHE) 6. Value-added service provider systems include digital satellite distribution systems, applications executing on  
10 cable servers (such as special-purpose applications like subscriber service application, content gather applications, etc.) and digital media servers outputting MPEG-2 datastreams. Network control systems provide management and control for the  
15 services supported by the broadband network.

Alternatively, services may be delivered from internet 4 through internet proxy 5, for example, from internet site 8. Examples of internet site 8 include photo service providers, banking,  
20 retailing, utilities, and the like.

In either case, the services are delivered to Cable Head End (CHE) 6, which serves as an interface between the service providers and the rest of the broadband network.

25 In particular, CHE 6, which is responsible for providing services to multiple nodes 9 (e.g., approximately 500,000 to 1,000,000), is connected via fiber optic cabling to hubs 7, which are connected to CHE 6 or other hubs 7. Each hub 7 is,  
30 in turn, connected to at least one node 9, also using fiber optic cabling. Coaxial cable is then used to connect each node to Set Top Boxes (STB's) 10. For instance, the STB 10 may be one of several currently available STB models available such as  
35 Scientific Atlanta's Explorer series and General



Instrument's DCT-2000 and DCT-5000+ models. While the present invention is described with regard to a STB, it should be apparent that any type of home interface control (HIC) that interfaces with a broadband network such as a digital cable network may be used. Finally, each STB 10 is connected to television 11 and may be connected to other devices not shown (e.g., printer, scanner, etc.).

5  
10 Accordingly, services are delivered from a service provider to CHE 6, to one or more hubs 7, to node 9, to STB 10 and to television 11.

It should be noted that, by virtue of the foregoing arrangement, a service infrastructure may be distributed among CHE 6, hubs 7, or other facilities. Further, while the present invention is described with reference to a digital cable network of Figure 4, it should be apparent that any broadband network interconnection may also be used between a client such as STB 10 and a server such as CHE 6. For example, it is possible to use a satellite, or other connection, with the present invention. CHE 6 may be a separate, or the same, computer system as server 104.

Figure 5 illustrates representative software architecture of a set top box (e.g., set top box 10) according to the present invention. In general, this software architecture, together with the hardware architecture of the set top box, supports, in addition to the reception of analog and digital services, the transmission of digital image data and associated information.

Through the software architecture illustrated in Figure 5, STB 10 hosts various applications that present to the home user functionality offered by various cable services.

Typical applications are a navigator, an interactive program guide, electronic mail and a web browser. Most of these applications are client/server implementations, where STB 10 hosts the client software, and CHE 6 hosts the server software. Communication between client and server over the cable network is facilitated by an operating system executed on STB 10, and is performed through API's. One example of an API that may be used to communicate between CHE 6 and STB 10 is a broadband protocol transport (BPT) which is offered by Canon Information Systems, Inc. of Irvine, California. However, it should be apparent that any protocol suitable for use over a broadband network may be used with the present invention. As is described herein, CHE 6 and STB 10 may communicate using the Hypertext Transfer Protocol (HTTP). Depending on the hardware platform and the operating system, applications may be resident at STB 10, or can be downloaded from a remote site including servers situated at, or available via, CHE 6 for execution at STB 10.

As shown in Figure 5, software architecture and STB 10 includes an interface 32 to hardware, an operating system 35, an HTML client 34, resident applications 33, and other applications 36. As is described in more detail below, resident applications 33 includes a resident device module that operates to cause a loadable device module to be loaded. The loadable device module is configured to communicate with CHE 6 to transfer digital image data and associated information between STB 10 and CHE 6.

The operating system 35 is usually vendor-specific for the STB, and may include operating

systems such as PowerTV, WinCE, MicroWare or OpenTV. HTML client 34 provides a group of independent handlers that can be plugged together in conformity to known plug-in specifications so as to provide  
5 ability to handle different types of media such as HTML, GIF, MPEG, HTTP, Java script, etc. The HTML client 34 is used to allow STB 10 to render HTML documents to a windows manager for display on the local television receiver. HTML documents may be  
10 retrieved from local cache, from in-band and out-of-band broadcast carrousels, VBI streams, HTTP proxy servers located at CHE 6, or remote HTTP servers accessed by STB 10 over the internet. In the latter case, documents retrieved from external web servers  
15 are filtered by a proxy according to predefined filtering criteria (such as surf watch), which also may convert requested documents into formats supported by the HTML client 34.

Resident applications 33 include such  
20 applications as the aforementioned resident device module, navigator, interactive program guide, and the like. Applications 33 and 36 include a web browser, an e-mail program, loadable device module, and the like.

Figure 6 provides an overview of an  
25 architecture for use in transferring digital image data and associated information between a cable head end and a set to box according to the present invention.

As part of hardware interface 32, device  
30 driver 602 provides an interface to device 601 external to STB 10 and connected via an interface to STB 10. Examples of such an interface include a Universal Serial Bus (USB), parallel and a IEEE 1394  
35 interface connection. Device 601 is, for example, a

digital device such as a still or video camera or a scanning device. Alternatively, device 601 may be a device (e.g., a reader) that is capable of retrieving data stored on a removable storage media such as a compact flash card, smartMedia or memory stick media, for example. Thus, device 601 is a digital image storage device that may or may not additionally be able to acquire, or capture, digital image data. Device driver 602 is configured to send and receive messages to and from device 601.

Device driver 602 detects device 601 when it is plugged into an external interface of STB 10. Information received by device driver 602 from device 601 is forwarded to resident device module 603. Such information includes type, or identification, information such as manufacturer and product identification information, and may also include information associated with user 110 (e.g., name, password, etc.).

Resident device module 603 identifies an appropriate loadable device module 604 for use in communicating with device 601 and CHE 6 to transfer image data and associated information. Where the identified loadable device module 604 is not available on STB 10, resident device module 603 causes loadable device module 604 to be transferred to STB 10 and initiated on STB 10. Loadable device module 604 may be transferred from a location that is accessible to STB 10.

Loadable device module 604 communicates with upload server via a broadband protocol transport (BPT) application programming interface (API) 605 that interfaces with broadband transport client 606 and broadband transport server 608 components executing on STB 10 and CHE 6,

respectively. Communication channel 607 is formed over broadband digital cable network and is used to transmit such information as device settings, images and queries, for example. In addition to  
5 transmitting image data and associated information, communication channel 607 may be used to request and receive loadable device module 604.

Image data received by upload server 610 is stored in database (or data store) 612. Requests  
10 for stored image data may be received by imaging server 613. For example, HTTP client 616 executing on STB 10 may forward a request (e.g., an Hypertext Markup Language, or HTML, request), via communication channel 615, for one or more images  
15 via HTTP server 614 to imaging server 613. In addition, imaging server 613 may receive an image request from such internet sites as photo print service provider 618. Where imaging server 613 is server 104, database 612 corresponds to image  
20 database 102 and image data stored therein is retrieved in response to such request. Where imaging server 613 is not server 104, imaging server 613 forwards a request to server 104 for the stored image data. Server 104 retrieves the requested  
25 image data from image database 102 and forwards the retrieved image data to imaging server 613.

Figure 7 provides examples of displays of a user interface that is displayed on television 11 for manipulating image data according to the present  
30 invention. In a series of displays, the user can navigate to a display with options for viewing, printing and storing image data.

Display 701 is a guest menu display that allows the user to choose between guest services,  
35 television channel selection and game menu options.

In a case that the user selects the guest services option 702, display 703 containing a guest services menu is displayed on television 11. Display 703 includes registration information, hotel information and local attractions information options.

Responsive to selection of a hotel information selection 704, display 705, which includes hotel guide and hotel services options, is displayed. In a case that a hotel services option 706 is selected, display 707 is displayed in response. In display 707, the hotel services menu includes a digital photo service option 708 which when selected causes display 709 to be displayed.

In a case that a view photos option 718 is selected in display 709, display 710 is provided which includes thumbnail images corresponding to image data stored in image database 102.

Advertising information may be displayed in display 710. For example, advertising information may be displayed in border area 712 surrounding the thumbnail images.

User 110 may select a thumbnail image 711 in display 710 to cause an image corresponding to thumbnail image 711 to be displayed in display 713. Advertising information may be displayed in display 713 such as in border area 715 surrounding image 714 in display 713.

Returning to display 709, in a case that user 110 chooses the print photos selection 719, display 716 is displayed on the screen of television 11. Display 716 includes a section for displaying thumbnail images that correspond to stored image data. While not shown in display 709, a scrolling capability may be used to allow user 110 to scroll through additional rows (or columns) of thumbnail

images. In addition to selecting image data, user 110 specifies a size (or sizes) and number of photographs in each of the selected sizes.

5 A total amount of the processing fees associated with each size photograph ordered based on a price per print is displayed along with an aggregate total. This amount may be charged to user 110 or an account of user 110, for example. In addition, user 110 may specify that the print output  
10 is to be generated locally (e.g., a printer made locally available by host 304), or at a remote location (e.g., web server 106 or image processing vendor 306).

When user 110 selects the create photo CD  
15 option 720 in display 716, display 717 is displayed on television 11. Display 717 allows user 110 to select photos, as in display 716, and indicate the provider (or location) that is to generate the persistent storage medium containing the selected  
20 photos.

In addition to displays 710 and 712, any and all of the displays of Figure 7 may include advertising information. A similar user interface may also be presented at station 108 which includes  
25 a displays 709, 710, 716 and 717 thereby allowing user 110 to view, print and copy image data from station 108.

Figures 8A and 8B illustrate flow diagrams of process steps to provide image services and generate revenue according to the present invention.  
30

At step S801, advertiser 103 uploads advertising information to server 104, and an account associated with advertiser 103 is updated to reflect any fees for such upload. At step S802,  
35 user 110 (e.g., a hotel guest) uploads digital

images (at no charge to user 110) using either station 108, or CATV system 107 as described above. At step S803, CATV system 107 receives a request to display a photo services menu (e.g., display 709 of Figure 7).

At step S804, it is determined whether a selection is made and which option (e.g., options 718 through 719) presented in the displayed photo services menu is selected. If it is determined that a view option (e.g., option 718 of display 709) is selected, processing continues at step S805. If it is determined that a print option (e.g., option 719 of display 709) is selected, processing continues at step S815. Alternatively, if it is determined that a store option (e.g., option 720) is selected, processing continues at step S825.

Referring to Figure 8B, in a case that user 110 selects the view photos option 718, display 719 is presented at step S806 to display thumbnail images that correspond to stored image data (e.g., image data uploaded by user 110 in step S802 of Figure 8A). At step S807, a thumbnail image is selected by user 110. In response, image data corresponding to the selected thumbnail image is displayed (e.g., as in display 713) along with advertising information such as that uploaded by advertiser 103 in step S801 of Figure 8A.

In a case that user 110 selects the print option 719, display 716 is presented. At step S816, a thumbnail image corresponding to uploaded image data is selected. At step S817, a print size and quantity is selected, and a print location, or provider, is selected at step S818. At step S819, a print requested is initiated at the request



location. And at step S820, an account of user 110 is charged a fee for printing the image data.

5 If it is determined, at step S804 of Figure 8A, that a create medium selection is made with stored image data, a display (e.g., display 717) is presented to user 110 to select the image data to be copied to the storage medium (e.g., a CD-ROM, etc.). At step S825 of Figure 8A, user 110 selects the thumbnail image(s) corresponding to the  
10 stored image data. At step S827, the storage medium is generated with the selected image data. At step S828, an account of user 110 is charged a fee for creating the image data copy on the storage medium.

15 In this regard, the invention has been described with respect to particular illustrative embodiments. However, it is to be understood that the invention is not limited to the above-described embodiments and that various changes and modifications may be made by those of ordinary skill  
20 in the art without departing from the spirit and the scope of the invention.

WHAT IS CLAIMED IS:

1. A method of providing digital image services and generating revenue therefrom, the method comprising:

5               receiving, at a first location, image data retrieved from removable storage media and storing the image data at the first location;

                  receiving and storing advertising information at the first location, at least some  
10               portion of the advertising information is unique to the first location; and

                  responsive to an output request, generating output of the image data, the output including the advertising information,  
15               wherein revenue is generated from the use of the advertising information.

2. A method according to Claim 1, further comprising:

20               responsive to a request at the first location, uploading the image data from the first location to a second, remote location.

3. A method according to Claim 1, wherein  
25               the output is hardcopy output.

4. A method according to Claim 3, wherein  
                  other revenue is generated from purchase of the hardcopy output.

30               5. A method according to Claim 3, wherein the hardcopy output is a postcard.

6. A method according to Claim 3, wherein  
35               the hardcopy output is a photograph.

7. A method according to Claim 1, wherein the output is saved to a removable storage medium.

5 8. A method according to Claim 7, wherein the removable storage medium is a CD-ROM, DVD-ROM, ZIP disk or a CLICK disk.

10 9. A method according to Claim 1, wherein revenue is generated from purchase of the hardcopy output.

10. A method according to Claim 1, wherein the output is a display.

15 11. A method according to Claim 1, wherein the display includes a display of the image data and the advertising information.

20 12. A method according to Claim 1, wherein the display includes a display of the image data.

25 13. A method according to Claim 12, wherein the displayed image data is a thumbnail image of the image data.

14. A method according to Claim 1, wherein the output request is generated through a cable television system.

30 15. A system configured to provide digital image services and generate revenue therefrom, comprising:

advertising data store accessible locally for storing advertising information;

image data store accessible locally for storing image data uploaded from removable storage media;

5 receiving station capable of interfacing with a device to retrieve the image data from the removable storage media; and

server configured to save image data received from the receiving station to the image data store and to save received advertising  
10 information to the advertising data store, and to respond to a request to output the image data the server outputting the advertising information with the image data,

wherein revenue is generated from the  
15 advertising information.

16. A digital image services system according to Claim 15, wherein the server is configured to upload the image data to a remote  
20 server.

17. A system according to Claim 16, wherein the remote server provides image data processing services, other revenue is generated from  
25 the purchase of at least one of the services.

18. A system according to Claim 15, further comprising:

a set-top box connected to the server, the  
30 set-top box configured to display a user interface comprising image processing selections and image data.

19. A computer-readable memory medium in  
35 which computer-executable process steps are stored,

the process steps for providing digital image services and generating revenue therefrom, wherein the process steps comprise:

5 a first receiving step to receive, at a first location, image data retrieved from removable storage media and storing the image data at the first location;

10 a second receiving step to receive advertising information and store the advertising information at the first location, at least some portion of the advertising information is unique to the first location; and

15 a generating step responsive to an output request, to generate output of the image data, the output including the advertising information,

wherein revenue is generated from the use of the advertising information.

20 20. Computer-readable memory medium according to Claim 19, further comprising:  
an uploading step, responsive to a request at the first location, to upload the image data from the first location to a second, remote location.

25 21. Computer-readable memory medium according to Claim 19, wherein the output is hardcopy output.

30 22. Computer-readable memory medium according to Claim 21, wherein other revenue is generated from purchase of the hardcopy output.

35 23. Computer-readable memory medium according to Claim 21, wherein the hardcopy output is a postcard.

24. Computer-readable memory medium  
according to Claim 21, wherein the hardcopy output  
is a photograph.

5           25. Computer-readable memory medium  
according to Claim 19, wherein the output is saved  
to removable storage medium.

10           26. Computer-readable memory medium  
according to Claim 25, wherein the removable storage  
medium is a CD-ROM, DVD-ROM, ZIP disk or a CLICK  
disk.

15           27. Computer-readable memory medium  
according to Claim 19, wherein revenue is generated  
from purchase of the hardcopy output.

20           28. Computer-readable memory medium  
according to Claim 19, wherein the output is a  
display.

25           29. Computer-readable memory medium  
according to Claim 19, wherein the display includes  
a display of the image data and the advertising  
information.

30           30. Computer-readable memory medium  
according to Claim 19, wherein the display includes  
a display of the image data.

31. Computer-readable memory medium  
according to Claim 30, wherein the displayed image  
data is a thumbnail image of the image data.

32. Computer-readable memory medium according to Claim 19, wherein the output request is generated through a cable television system.

5                   33. An apparatus for providing digital image services and generating revenue therefrom, comprising:

                  a program memory for storing process steps executable to perform the steps of (1) receiving, at  
10                   a first location, image data retrieved from removable storage media and storing the image data at the first location, (2) receiving and storing advertising information at the first location, at least some portion of the advertising information is  
15                   unique to the first location, and (3) responsive to an output request, generating output of the image data, the output including the advertising information, wherein revenue is generated from the use of the advertising information, and

20                   a processor for executing the process steps stored in said program memory.

34. An apparatus according to Claim 33, wherein the process steps further comprising the  
25                   step of:

                  responsive to a request at the first location, uploading the image data from the first location to a second, remote location.

30                   35. An apparatus according to Claim 33, wherein the output is hardcopy output.

36. An apparatus according to Claim 35, wherein other revenue is generated from purchase of  
35                   the hardcopy output.

37. An apparatus according to Claim 35,  
wherein the hardcopy output is a postcard.

5           38. An apparatus according to Claim 35,  
wherein the hardcopy output is a photograph.

          39. An apparatus according to Claim 33,  
wherein the output is saved to removable storage  
medium.

10           40. An apparatus according to Claim 39,  
wherein the removable storage medium is a CD-ROM,  
DVD-ROM, ZIP disk or a CLICK disk.

15           41. An apparatus according to Claim 33,  
wherein revenue is generated from purchase of the  
hardcopy output.

20           42. An apparatus according to Claim 33,  
wherein the output is a display.

          43. An apparatus according to Claim 33,  
wherein the display includes a display of the image  
data and the advertising information.

25           44. An apparatus according to Claim 33,  
wherein the display includes a display of the image  
data.

30           45. An apparatus according to Claim 44,  
wherein the displayed image data is a thumbnail  
image of the image data.



46. An apparatus according to Claim 33, wherein the output request is generated through a cable television system.

ABSTRACT

The present invention comprises a system and method for providing image processing services and deriving revenue from such services as well as revenue from placement of advertising information passed on to users. A local image service center connected to a server computing system, offers services for uploading image data from a storage medium to local and/or remote storage as well as other services for processing uploaded image data. Access to uploaded image data is available via a cable television system. Revenue is derived from the services provided as well as from advertisers whose information is passed along to users.

CA\_MAIN 16632 v 1

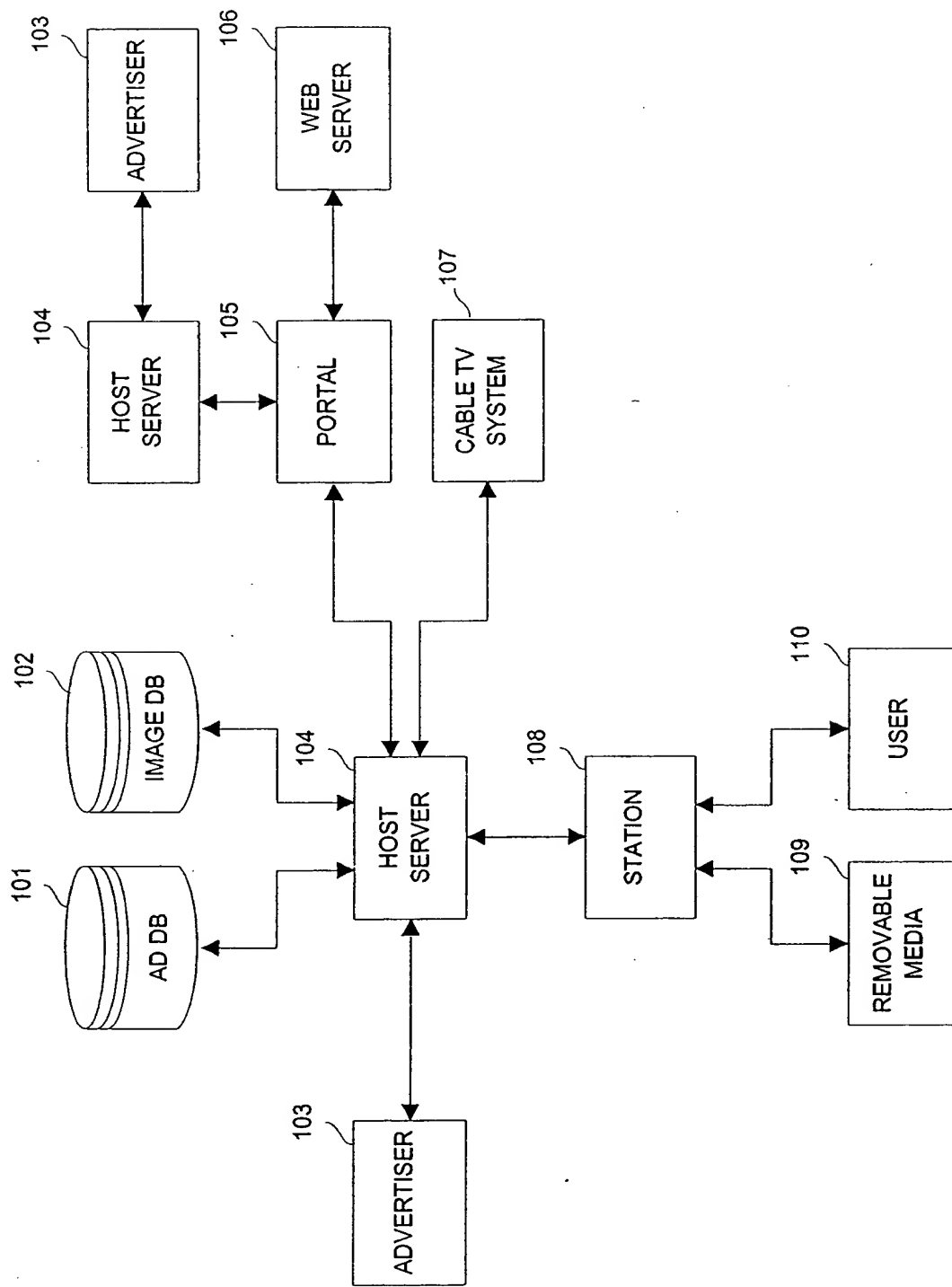


Figure 1

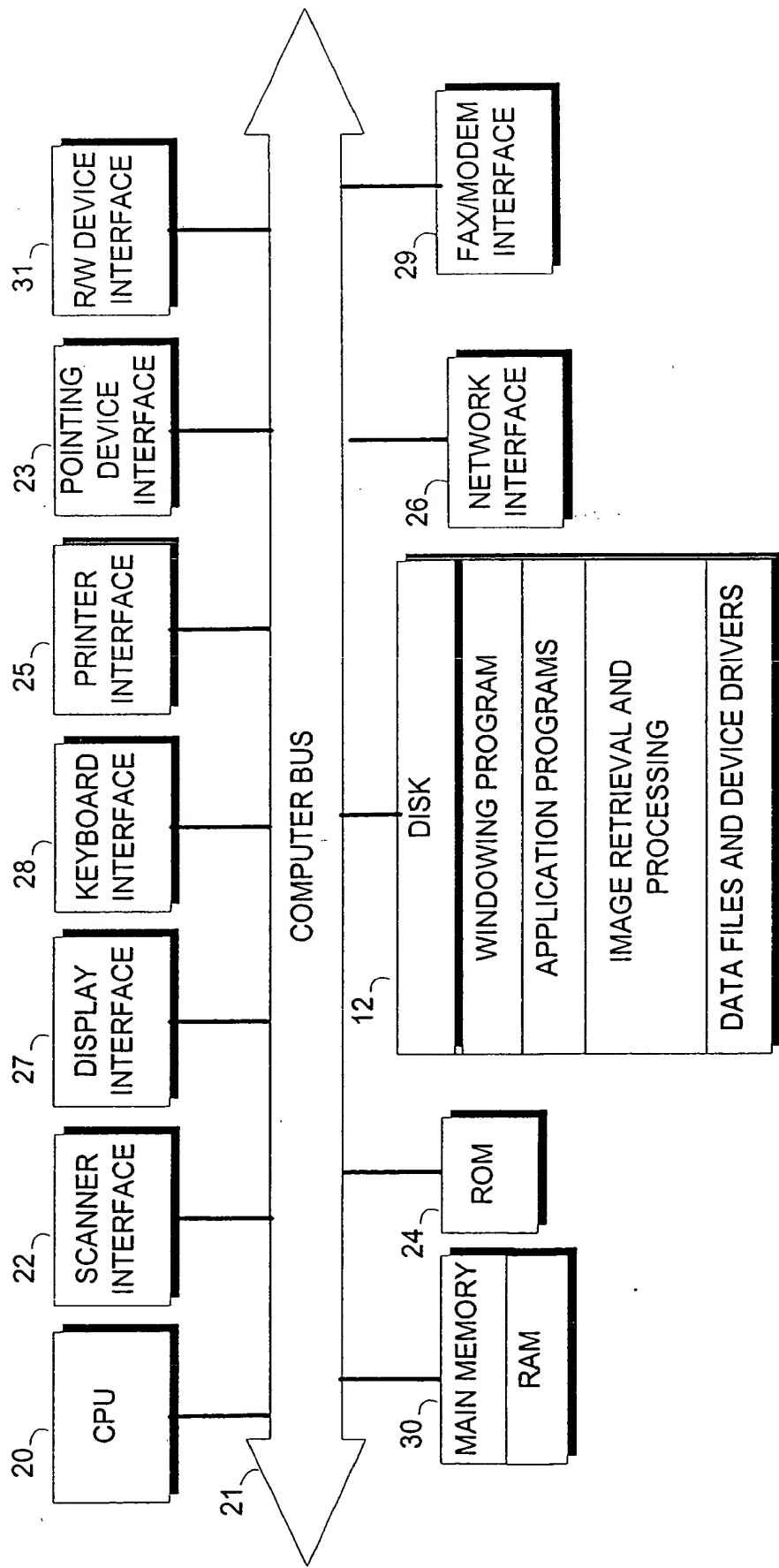


Figure 2

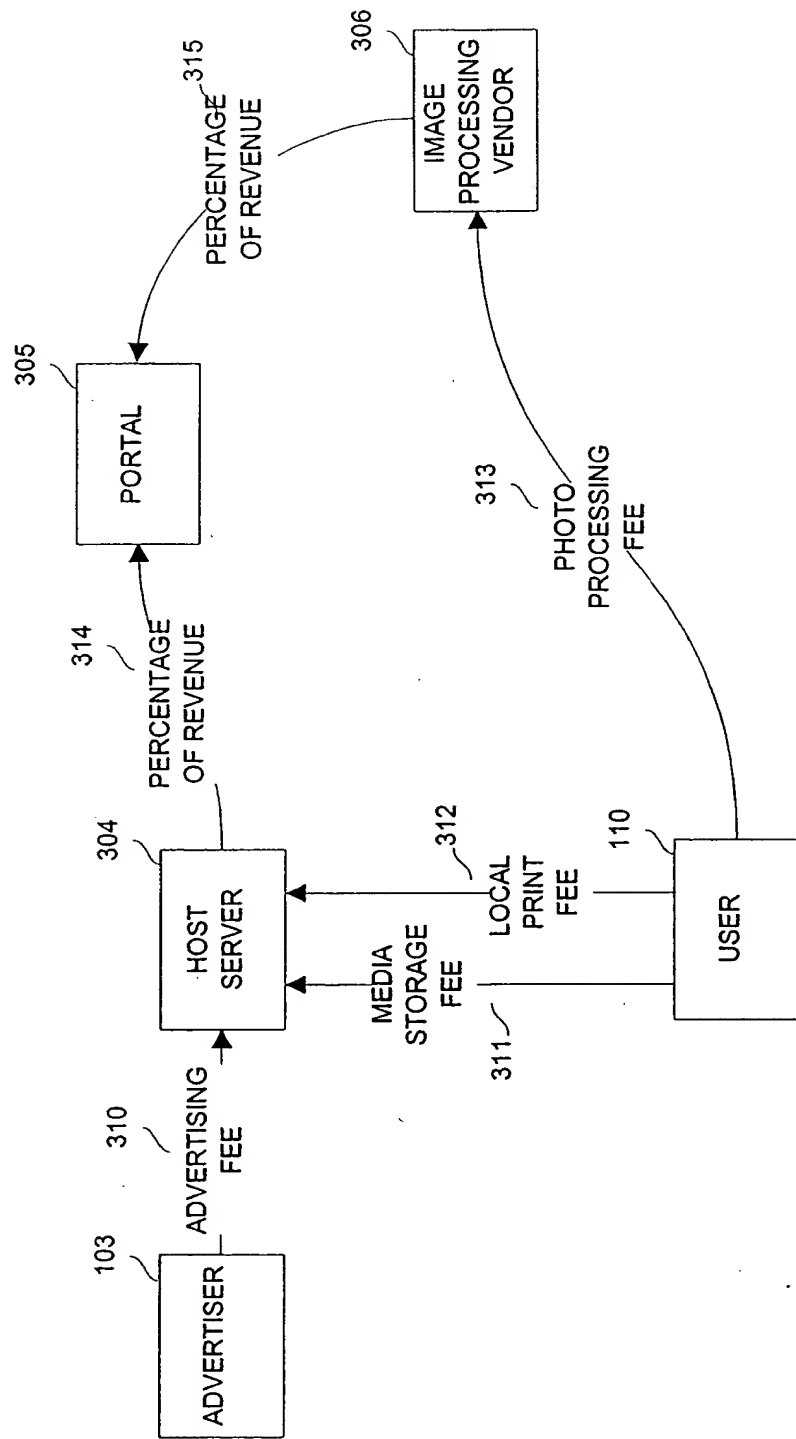


Figure 3

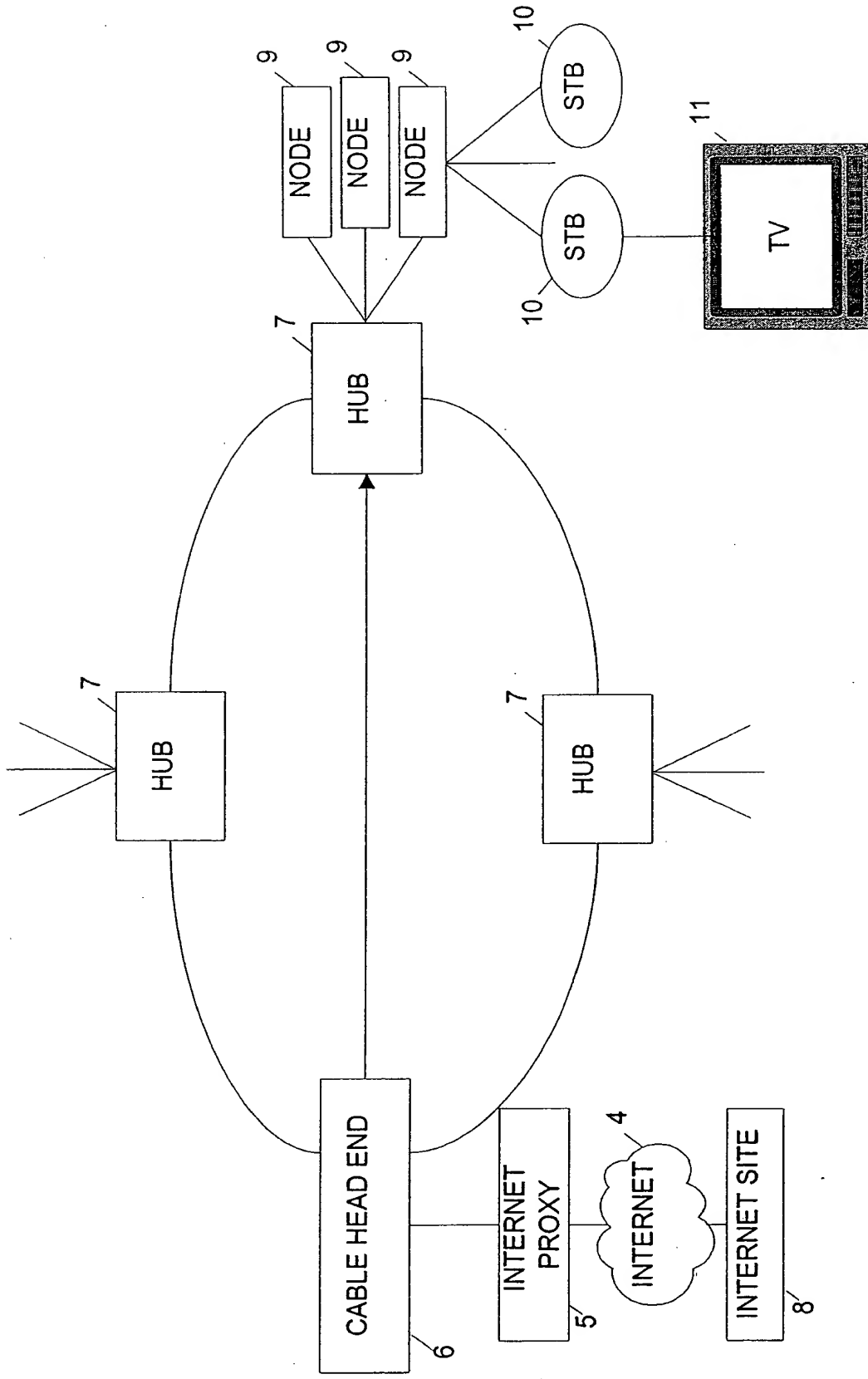


Figure 4

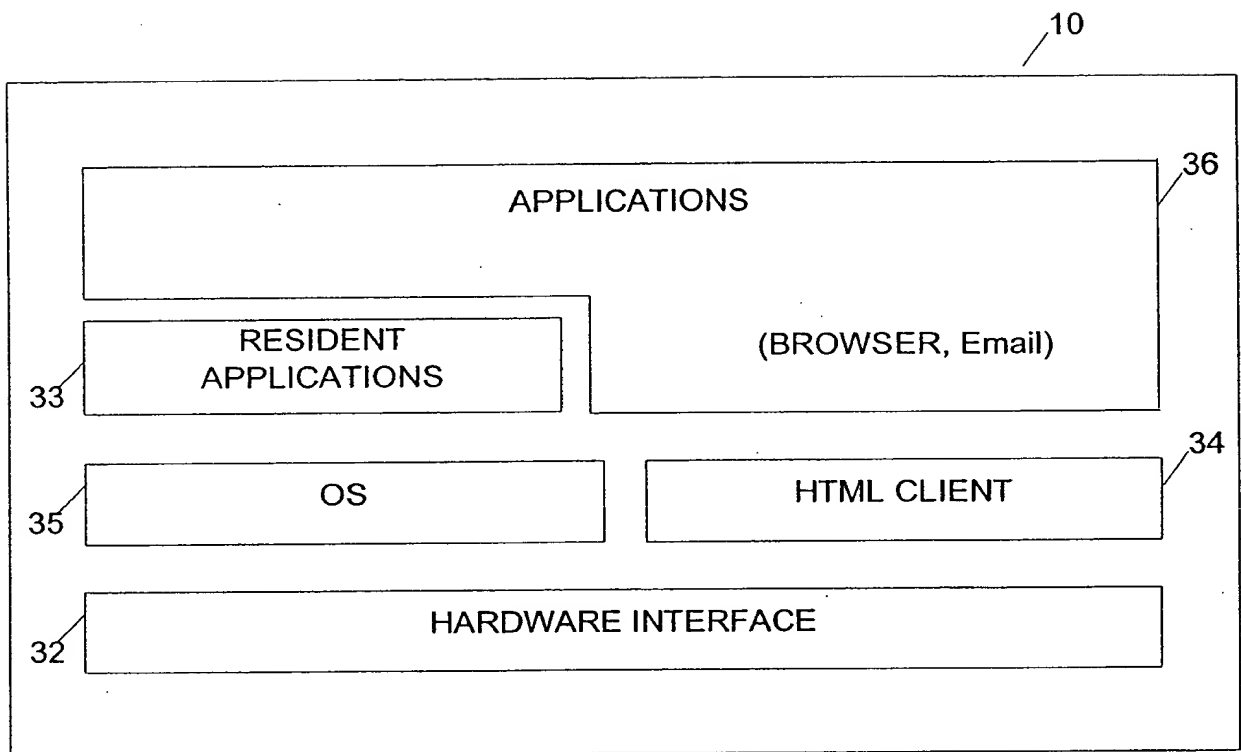


Figure 5

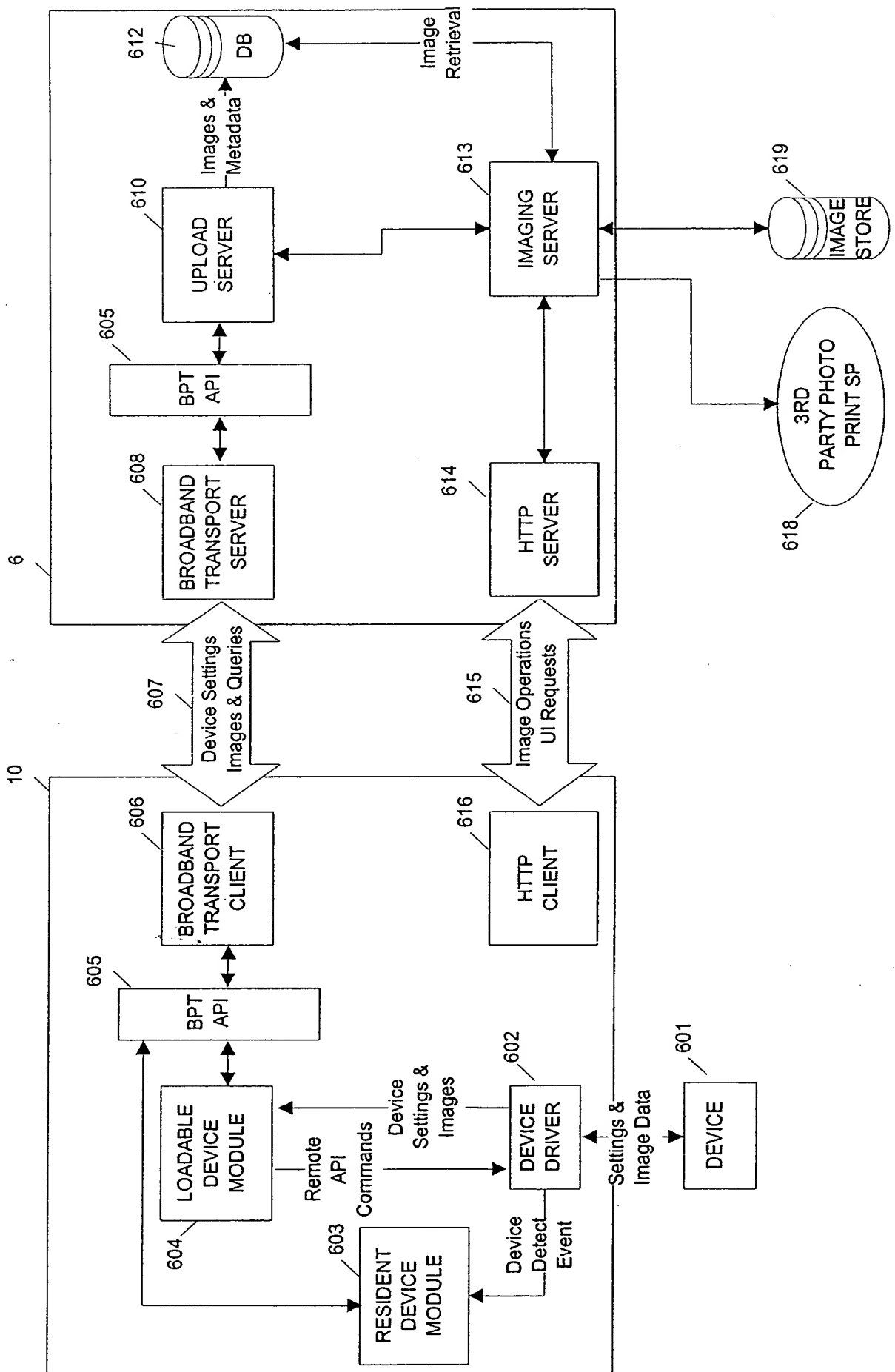


Figure 6



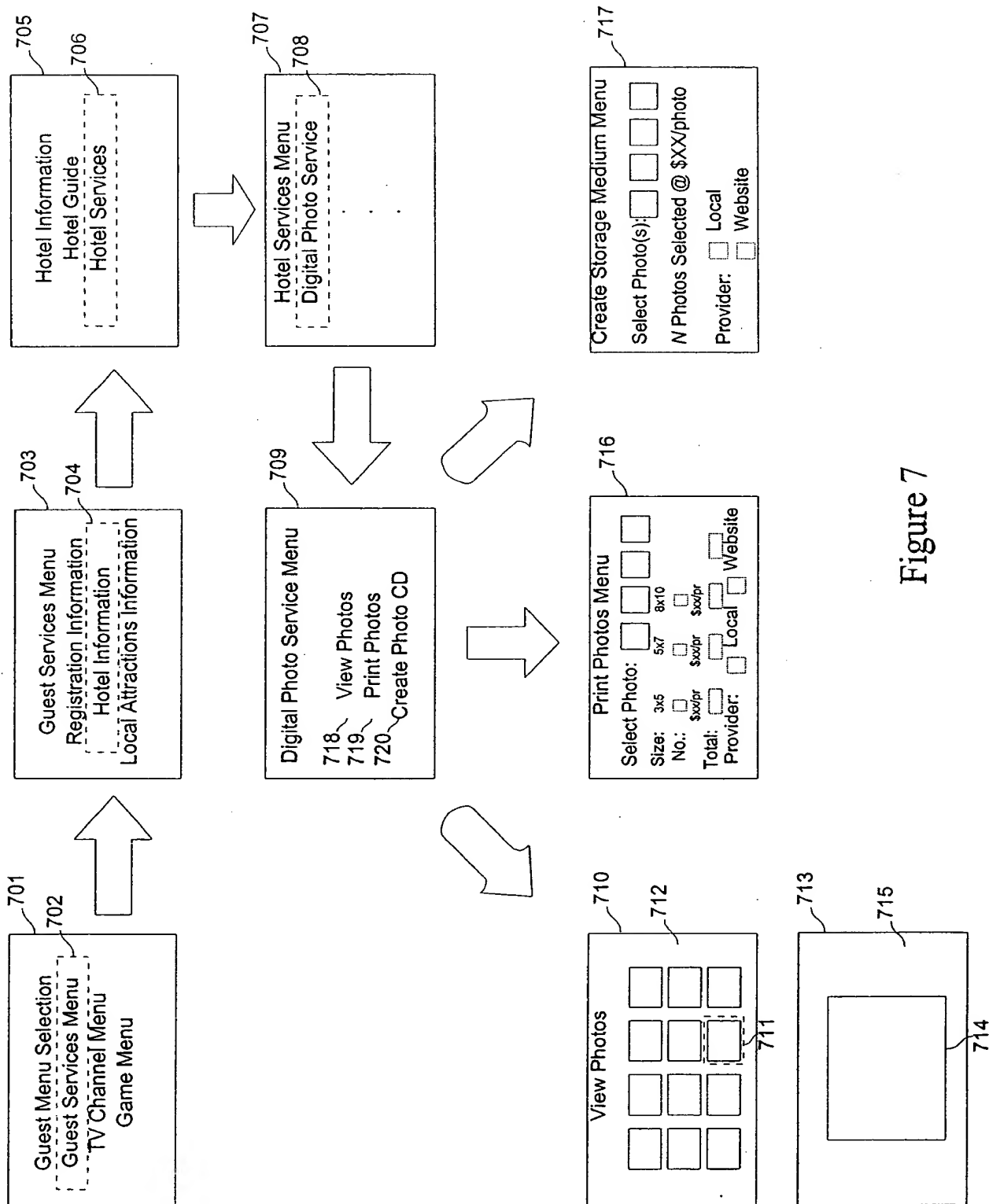
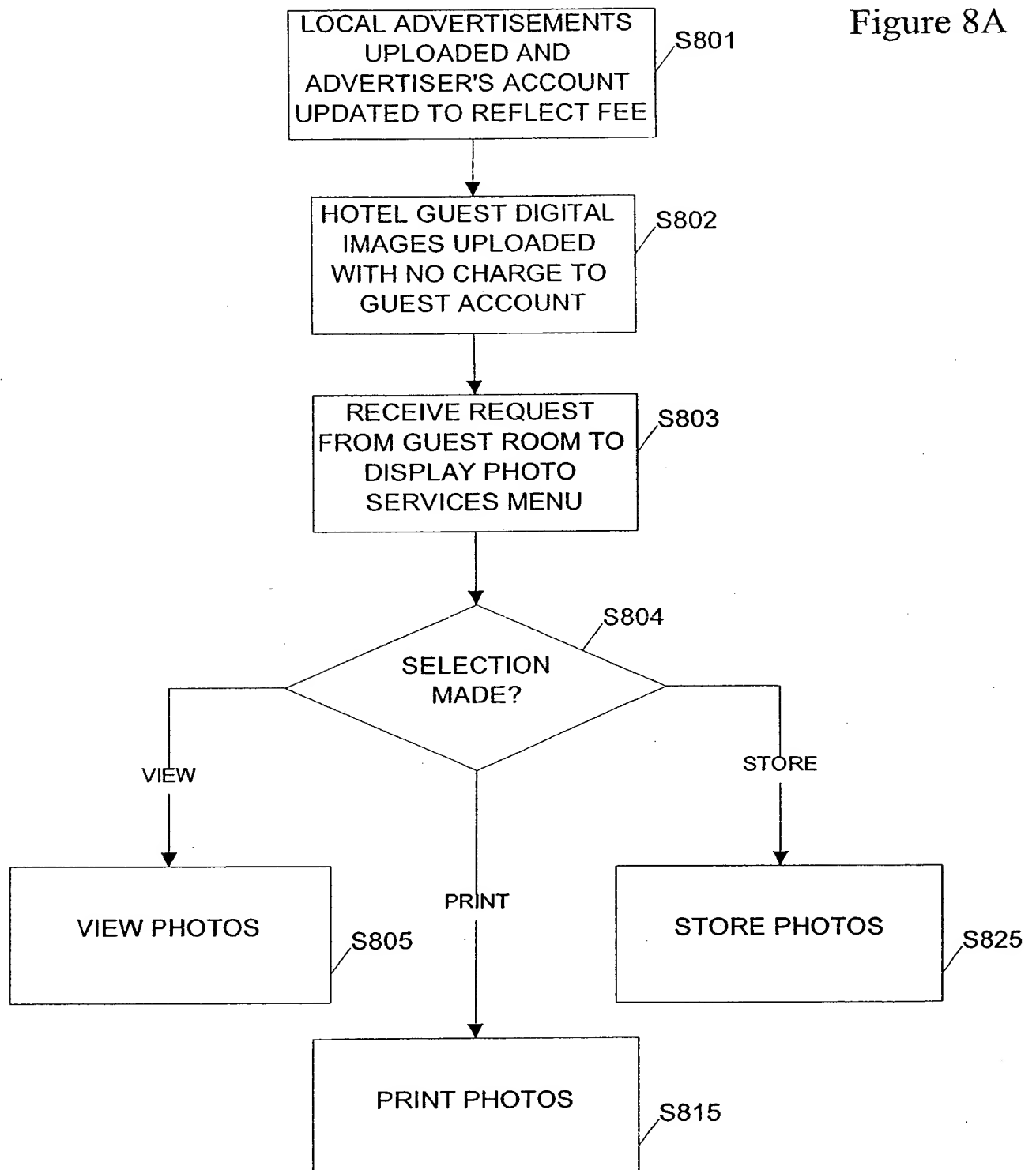


Figure 7

Figure 8A



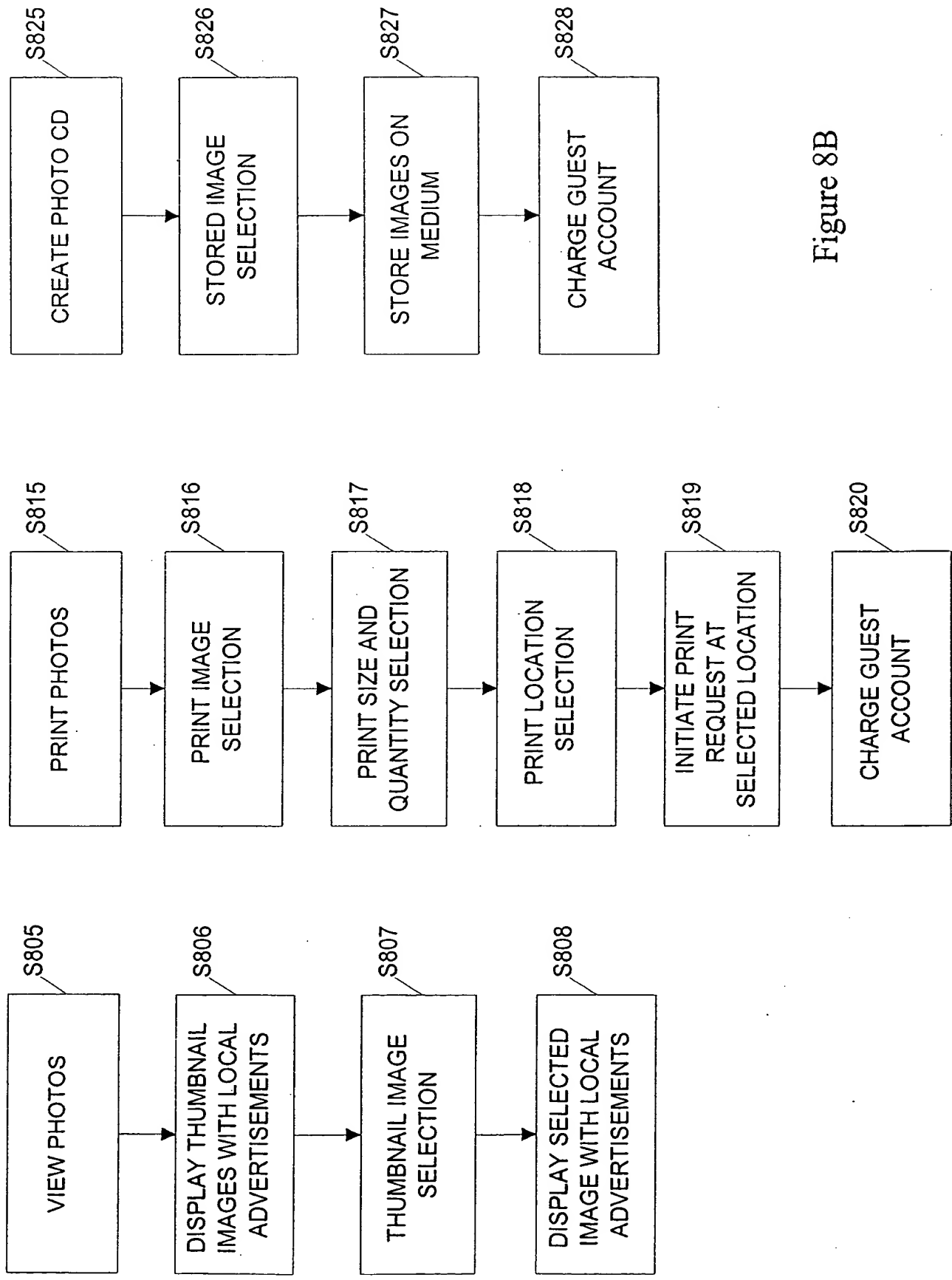


Figure 8B